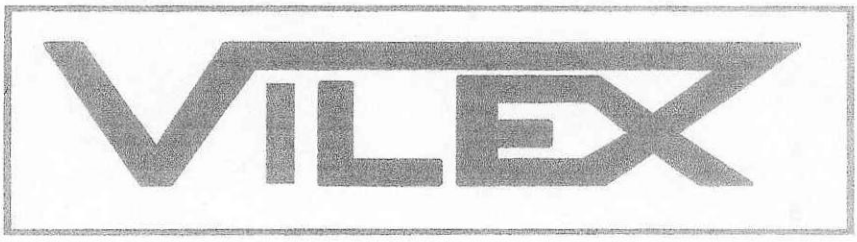
Repair Manual

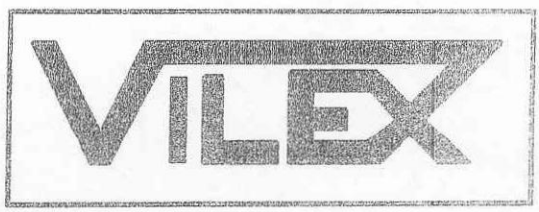


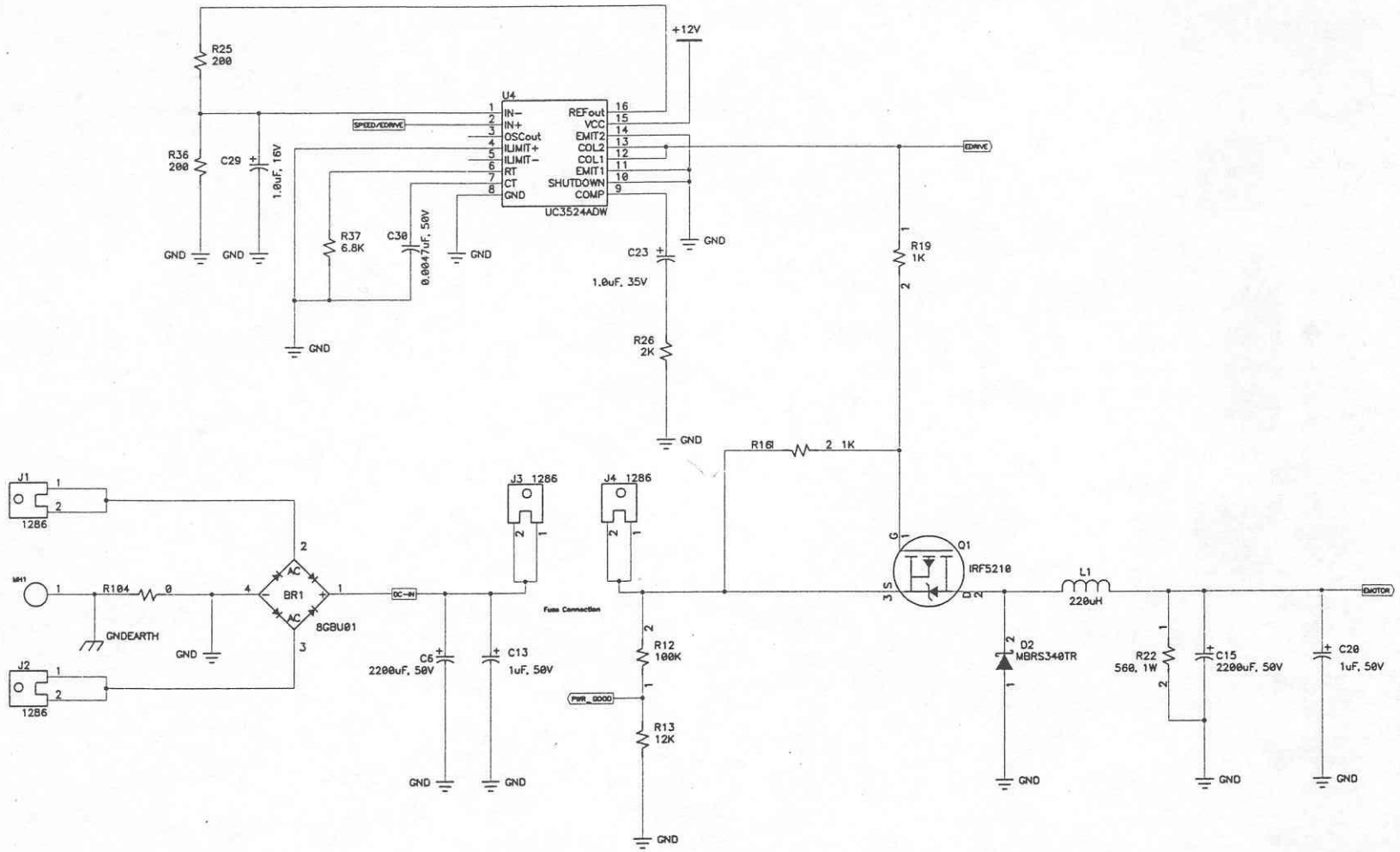
Formerly UAM (United American Medical Co., Inc.)

Phone (931) 474-7550
Fax (931) 474-7551
Orders (800) 521-5002
Email vilex@infoave.net

Vilex, Inc. (TN)
111 Moffitt Street
McMinnville,TN 37110

Console Assembly Diagram





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Voice: (256)534-9067, Fax: (256)534-9069

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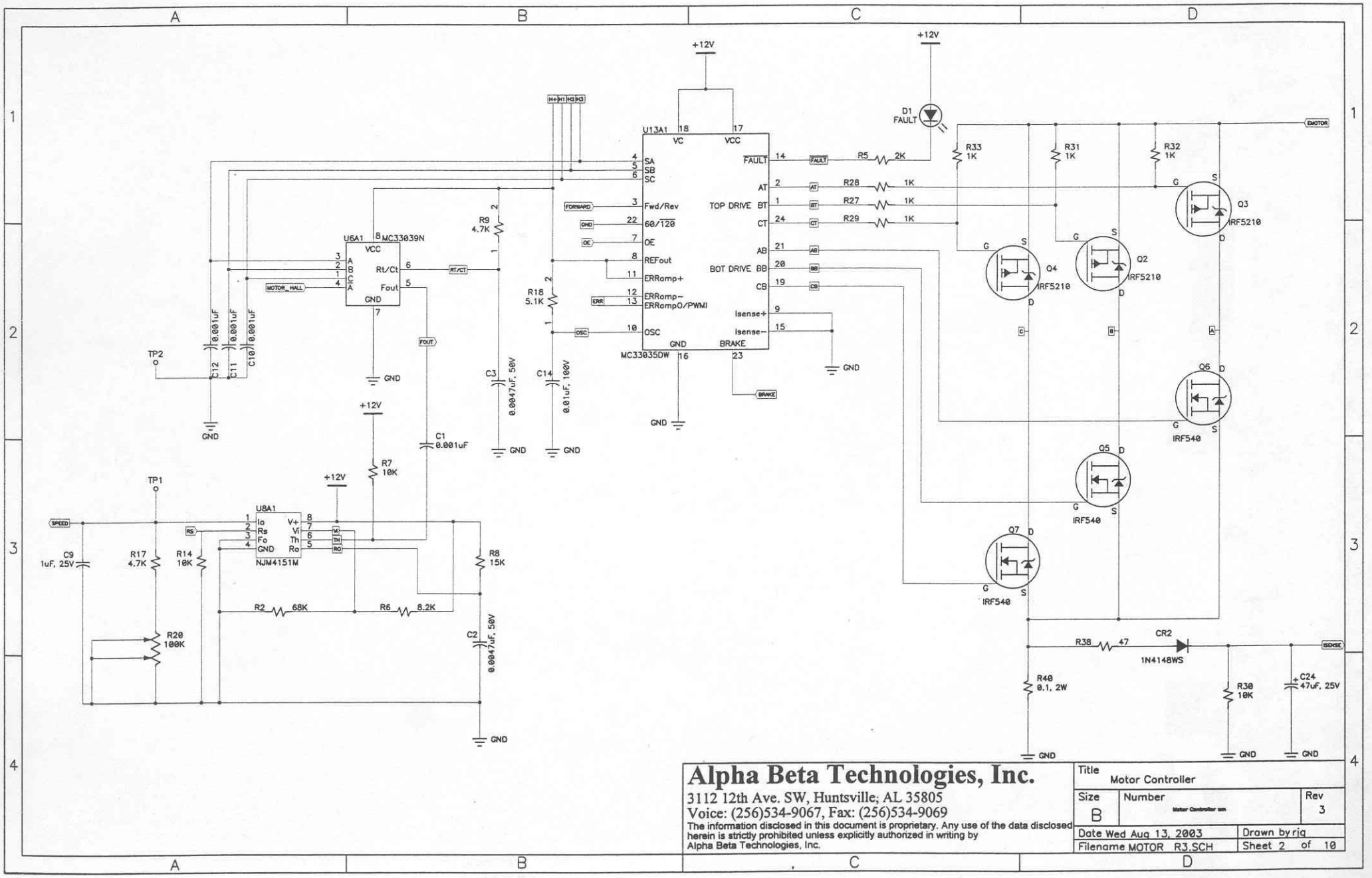
Title: Motor Controller		
Size: B	Number: Power Supply	Rev: 3
Date: Wed Aug 13, 2003		Drawn by: rig
Filename: MOTOR R3.SCH		Sheet 1 of 10



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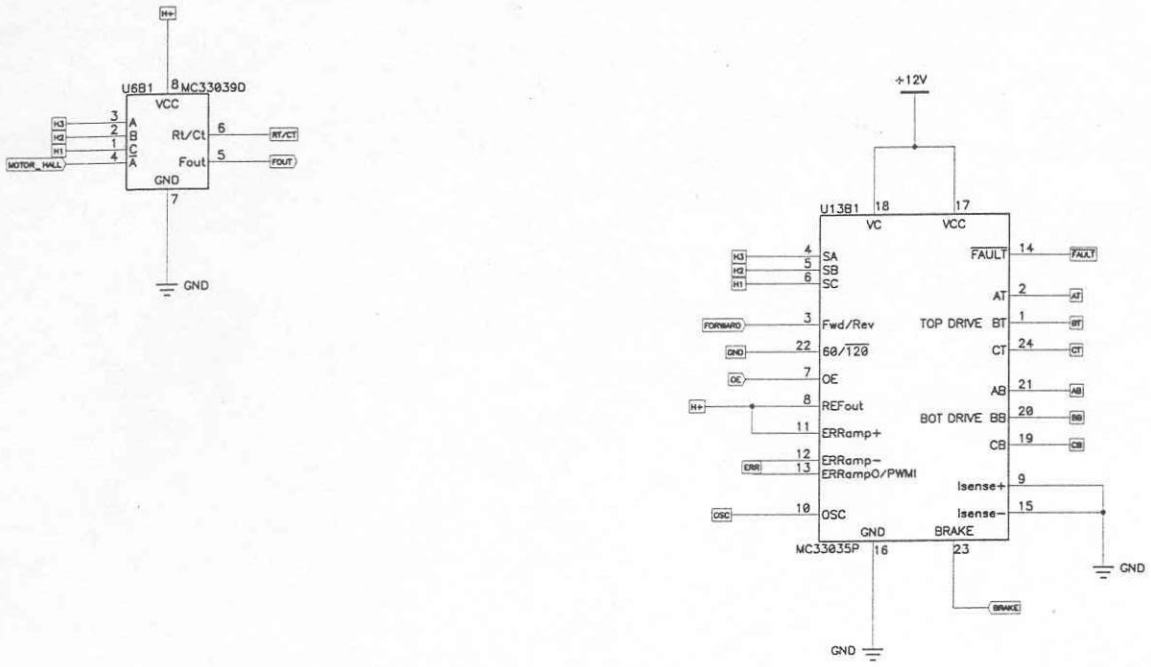
Title: Motor Controller		
Size: B	Number: Motor Controller.sch	Rev: 3
Date: Wed Aug 13, 2003		Drawn by: rjg
Filename: MOTOR R3.SCH		Sheet 2 of 10



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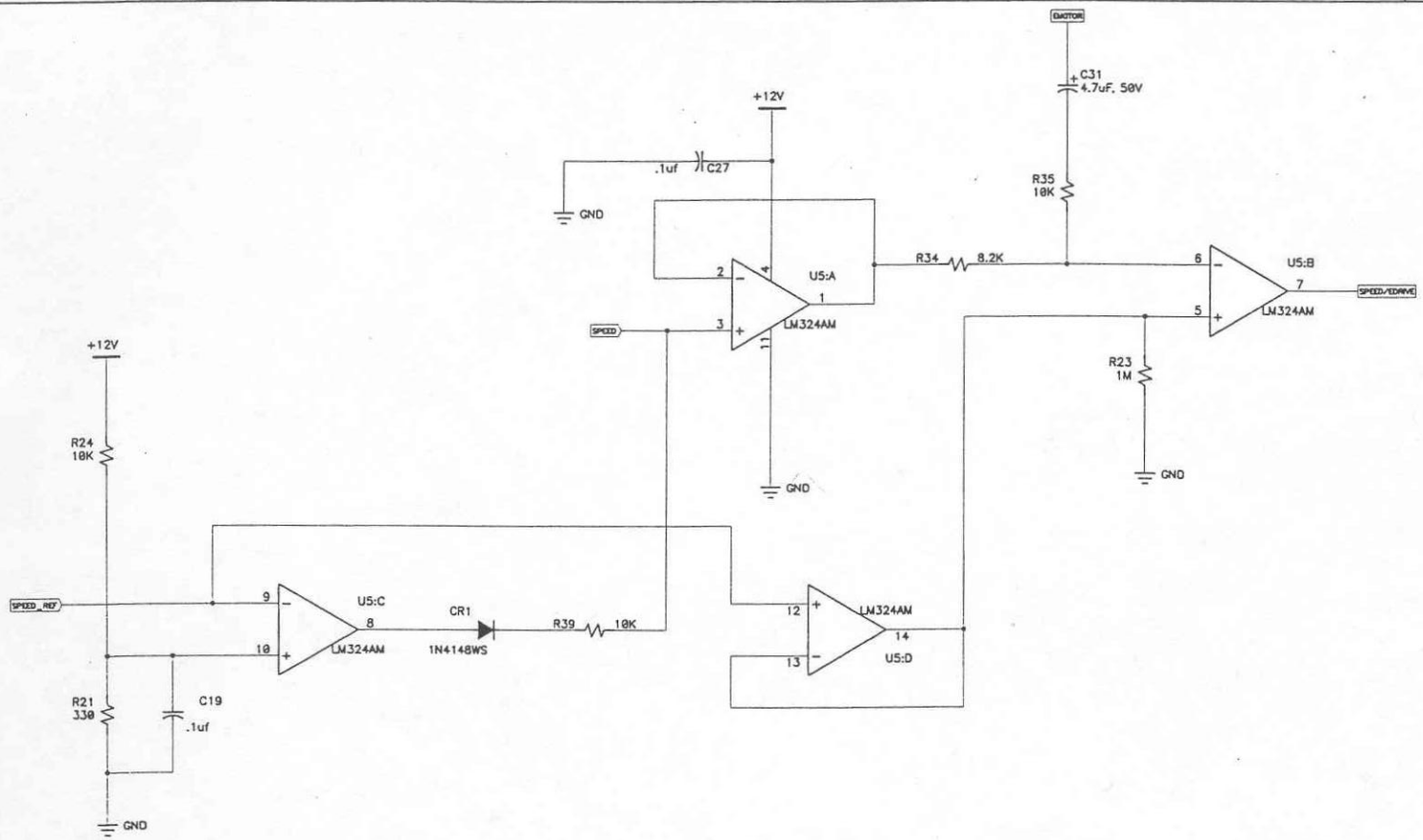
Title: Motor Controller		
Size: B	Number: Motor Controller th	Rev: 3
Date: Wed Aug 13, 2003		Drawn by: rjg
Filename: MOTOR R3.SCH		Sheet 3 of 10



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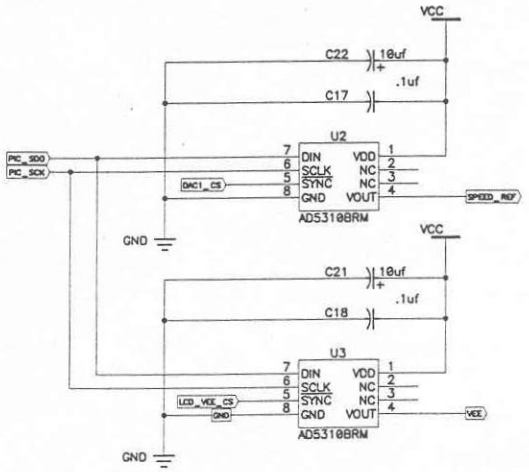
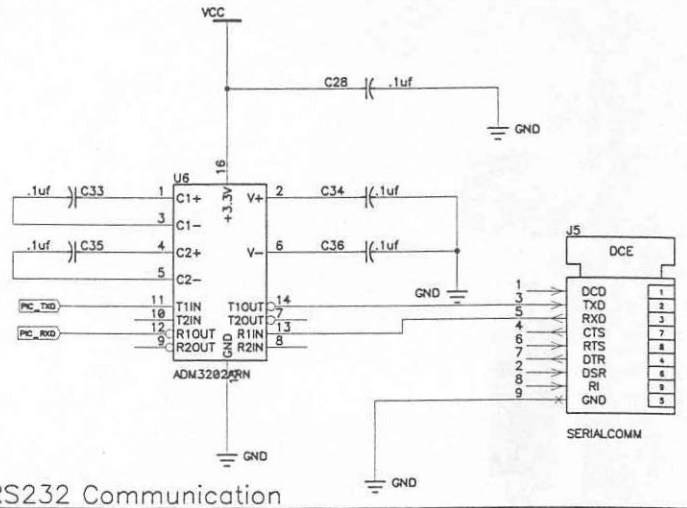
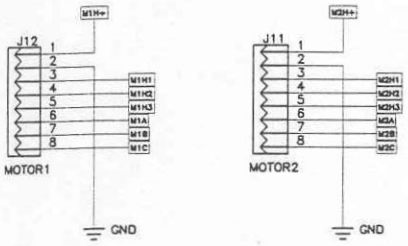
Title: Motor Controller		
Size: B	Number: Amplifier	Rev: 3
Date: Wed Aug 13, 2003		Drawn by: rig
Filename: MOTOR_R3.SCH		Sheet 4 of 10



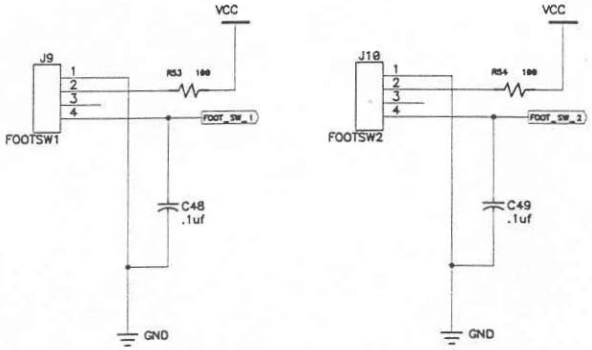
D to A Converters



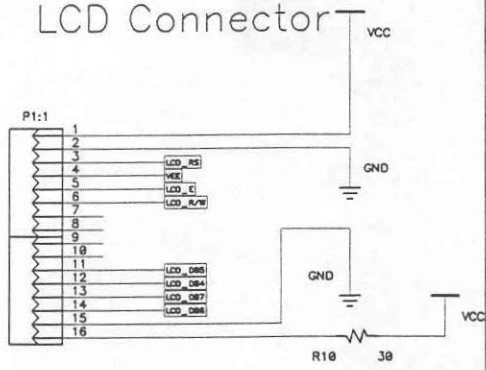
RS232 Communication



Check for pin one designator.



Top Mount
LCD Connector



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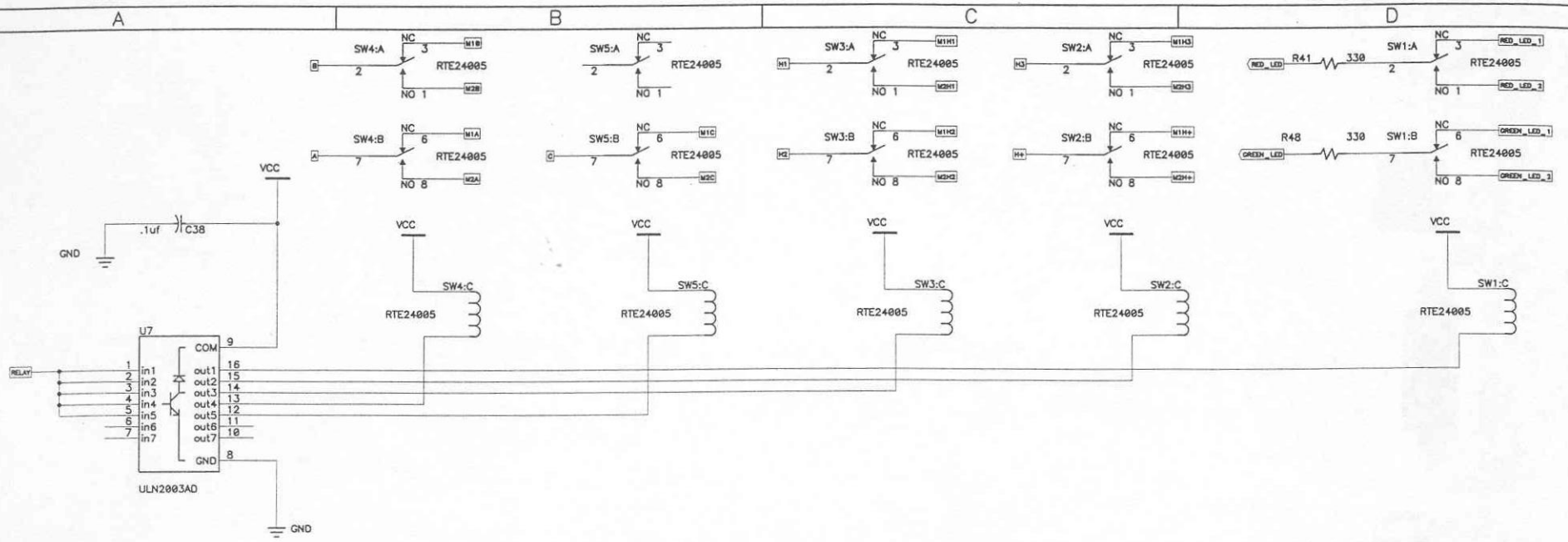
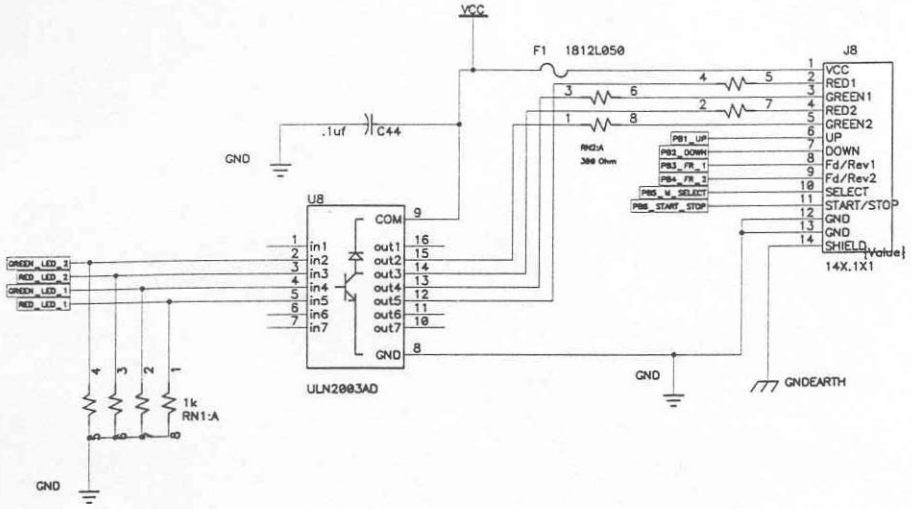
Title: Motor Controller		
Size: B	Number: Interface	Rev: 3
Date: Wed Aug 13, 2003		Drawn by: rjg
Filename: MOTOR_R3.SCH		Sheet 5 of 10





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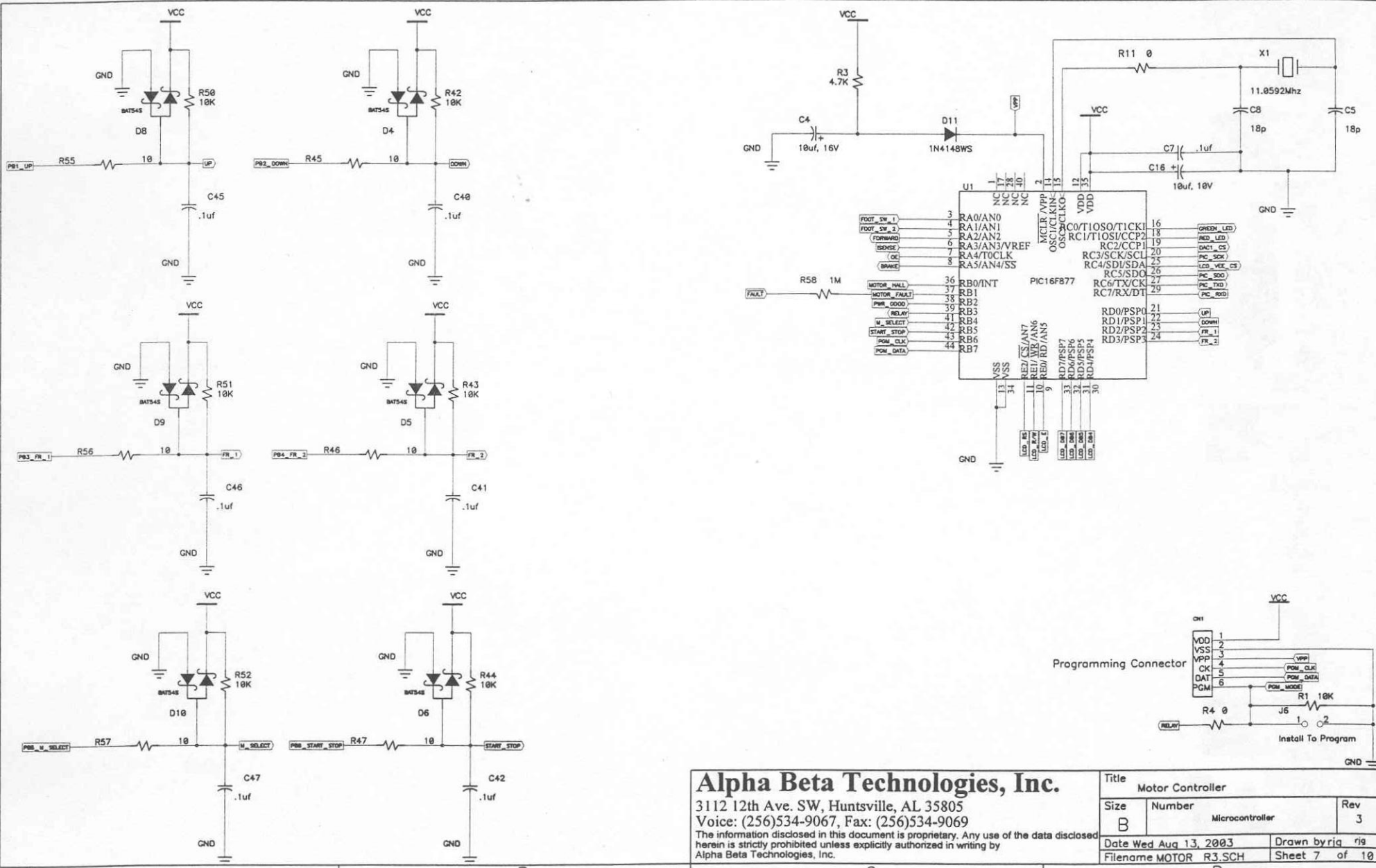
Title: Motor Controller		
Size: B	Number: Relay & Switch	Rev: 3
Date: Wed Aug 13, 2003		Drawn by: rjg
Filename: MOTOR R3.SCH		Sheet 6 of 10



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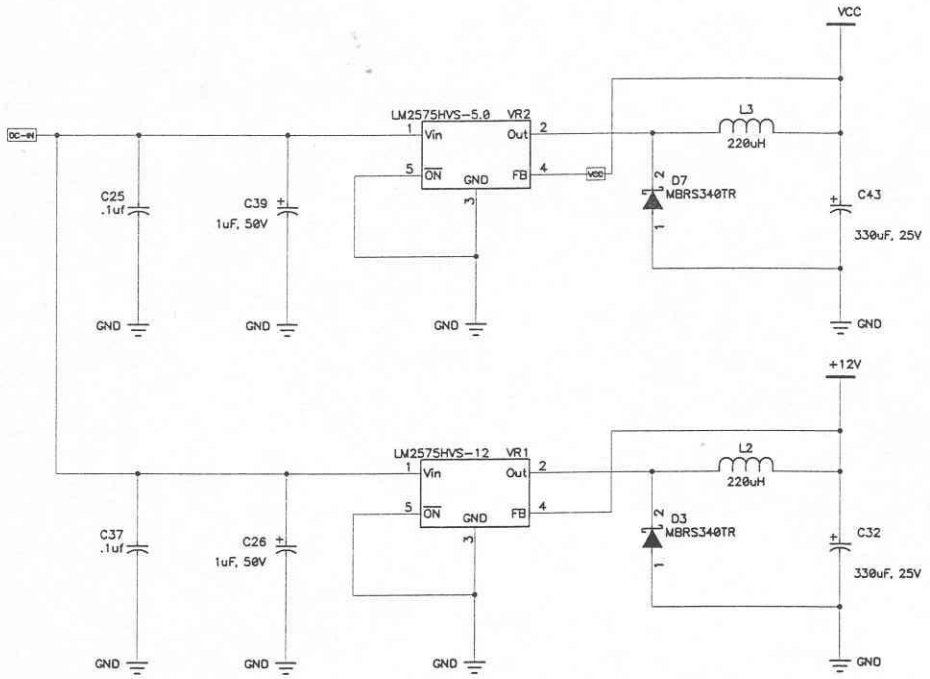
Title: Motor Controller		
Size: B	Number: Microcontroller	Rev: 3
Date: Wed Aug 13, 2003	Drawn by: rjg	rjg
Filename: MOTOR R3.SCH	Sheet 7 of 10	



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Title: Motor Controller		
Size: B	Number: Voltage Regulators	Rev: 3
Date: Wed Aug 13, 2003		Drawn by: rig
Filename: MOTOR R3.SCH		Sheet 8 of 10

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Title: Motor Controller		
Size: B	Number: Front Panel	Rev: 3
Date: Wed Aug 13, 2003		Drawn by: rjg
Filename: MOTOR R3.SCH		Sheet 9 of 10

NOTES

Revision Note Table

1.0 Initial Release

2.0 Change pattern on UC3524, remove Motor ACT, net changes to J8.

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Title: Motor Controller		
Size: B	Number:	Rev: 3
Date: Wed Aug 13, 2003		Drawn by: rjg
Filename: MOTOR R3.SCH		Sheet 10 of 10

Count	RefDes	ComponentName	Value	Description	PatternName	Part Number	Manufacturer	UL File #	Reference
1	D11	1N4148WS	1N4001	DIODE SWITCH 75V 200MW SOD-323	SOD-323	1N4148WS-7			
2	CR1	1N4148WS	1N4148WS	Lead-Mounted Silicon Rectifier, Diffused Junction	SOD-323	DL4148	Micro Commercial Co.		
	CR2	1N4148WS	1N4148WS	Lead-Mounted Silicon Rectifier, Diffused Junction	SOD-323	DL4148	Micro Commercial Co.		
1	J9	1X4FRICTION LOCK	FOOTSW1	CONN HDR 4POS FRIC STR MTA 100	1X4FRICTION LOCK	640456-4	AMP/TycoElectronics		
1	J10	1X4FRICTION LOCK	FOOTSW2	CONN HDR 4POS FRIC STR MTA 100	1X4FRICTION LOCK	640456-4	AMP/TycoElectronics		
1	J12	1X8 3.96MM SPACE	MOTOR1	HEADER 8 POS .156 FRIC LOCK STR	1X8 3.96SPACE	26-60-4080	Molex		
1	J11	1X8 3.96MM SPACE	MOTOR2	HEADER 8 POS .156 FRIC LOCK STR	1X8 3.96SPACE	26-60-4080	Molex		
1	BR1	8GBU	8GBU01	BRIDGE SGL PHASE 100V 8A GBU	8BGU	8GBU01	International Rectifier	E215862	
1	J8	14X.1X1	{Value}	Female Connector (expanded)	CONNECT_44_N				
1	U3	AD5310BRM	DNP	140 µA, Rail-to-Rail Voltage Output 10-Bit DAC	USOIC8	AD5310BRM	Analog Devices		
1	U2	AD5310BRM	{Value}	140 µA, Rail-to-Rail Voltage Output 10-Bit DAC	USOIC8	AD5310BRM	Analog Devices		
1	U6	ADM3202ARN	ADM3202ARN	High-Speed, 2-Channel RS232/V.28 Interface Device	SO16	ADM3202ARN	Analog Devices		
6	D4	BAT54SCT	BAT54S	DIODE SCHOTTKY 30V 200MA SOT-23	SOT-23(ANK)	BAT54S	Fairchild Semiconductor		
	D5	BAT54SCT	BAT54S	DIODE SCHOTTKY 30V 200MA SOT-23	SOT-23(ANK)	BAT54S	Fairchild Semiconductor		
	D6	BAT54SCT	BAT54S	DIODE SCHOTTKY 30V 200MA SOT-23	SOT-23(ANK)	BAT54S	Fairchild Semiconductor		
	D8	BAT54SCT	BAT54S	DIODE SCHOTTKY 30V 200MA SOT-23	SOT-23(ANK)	BAT54S	Fairchild Semiconductor		
	D9	BAT54SCT	BAT54S	DIODE SCHOTTKY 30V 200MA SOT-23	SOT-23(ANK)	BAT54S	Fairchild Semiconductor		
	D10	BAT54SCT	BAT54S	DIODE SCHOTTKY 30V 200MA SOT-23	SOT-23(ANK)	BAT54S	Fairchild Semiconductor		
2	C32	CAP-LYTIC F SIZE	330uF, 25V	CAP 330UF 25V ELECT VS SMD	CAP-F SIZE	ECE-V1EA331UP	Panasonic		
	C43	CAP-LYTIC F SIZE	330uF, 25V	CAP 330UF 25V ELECT VS SMD	CAP-F SIZE	ECE-V1EA331UP	Panasonic		
1	C31	CAP-LYTIC-A SIZE	4.7uF, 50V	CAP 4.7UF 50V ELECT VS SMD	CAP-A SIZE	ECE-V1HA4R7WR	Panasonic		
1	C16	CAP-LYTIC-D8SIZE	10uf, 10V	CAPACITOR TANT 10UF 10V 20% SMT	CAP-D8 SIZE	T494B106M010AS	Kemet		
1	C4	CAP-LYTIC-D8SIZE	10uf, 16V	CAP 47UF 16V ELECT VS SMD	CAP-D8 SIZE	ECE-V1CA470WR	Panasonic		
1	C24	CAP-LYTIC-D8SIZE	47uF, 25V	CAP 47UF 25V ELECT VS SMD	CAP-D8 SIZE	ECE-V1EA470UP	Panasonic		
2	C6	CAP-MA SERIES-LYTIC	2200uF, 50V	CAP 2200UF 50V ALUM LYTIC RADIAL	CAP-MA SERIES	ECA-1HM222	Panasonic		
	C15	CAP-MA SERIES-LYTIC	2200uF, 50V	CAP 2200UF 50V ALUM LYTIC RADIAL	CAP-MA SERIES	ECA-1HM222	Panasonic		
4	C1	CC0805	0.001uF	CAP 100V .001UF AXIAL CERAM X7R	CC0805	A102K15X7RH5TAA	BCComponents		
	C10	CC0805	0.001uF	CAP 100V .001UF AXIAL CERAM X7R	CC0805	A102K15X7RH5TAA	BCComponents		
	C11	CC0805	0.001uF	CAP 100V .001UF AXIAL CERAM X7R	CC0805	A102K15X7RH5TAA	BCComponents		
	C12	CC0805	0.001uF	CAP 100V .001UF AXIAL CERAM X7R	CC0805	A102K15X7RH5TAA	BCComponents		
22	C7	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C17	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C18	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C19	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C25	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C27	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C28	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C33	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C34	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C35	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C36	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C37	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C38	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C40	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C41	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C42	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C44	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C45	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C46	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C47	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C48	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
	C49	CC0805	.1uf	CAP .1UF 50V CERAMIC X7R 0805	CC0805	ECJ-2YB1H104K	Panasonic		
2	C5	CC0805	18p	CAP 18PF 50V CERAMIC NPO 0805	CC0805	C0805C180J5GACTU	Kemet		
	C8	CC0805	18p	CAP 18PF 50V CERAMIC NPO 0805	CC0805	C0805C180J5GACTU	Kemet		
3	C2	CC1206	0.0047uF, 50V	CAP 4700PF 50V CERAMIC X7R 1206	CC1206	12062R472K9B20D	Yageo		
	C3	CC1206	0.0047uF, 50V	CAP 4700PF 50V CERAMIC X7R 1206	CC1206	12062R472K9B20D	Yageo		
	C30	CC1206	0.0047uF, 50V	CAP 4700PF 50V CERAMIC X7R 1206	CC1206	12062R472K9B20D	Yageo		
1	C14	CC1206	0.01uF, 100V	CAP 10000PF 100V CERAMC X7R 1206	CC1206	C1206C103J1RACTU	Kemet		
1	C9	CC1206	1uF, 25V	CAP 1UF 25V CERAMIC X7R 1206	CC1206	ECJ-3YB1E105K	Panasonic		
1	C29	CCPOL_EIA_A	1.0uF, 16V	CAP 1.0UF 16V TANT TE SERIES	CCPOL_EIA_A	ECS-T1CY105R	Panasonic		
1	C23	CCPOL_EIA_A	1.0uF, 35V	CAP 1.0UF 35V TANT TE SERIES	CCPOL_EIA_A	ECS-T1VX105R	Panasonic		

2	C21	CCPOL_EIA_B	10uf	CAPACITOR TANT 10UF 10V 20% SMT	CCPOL_EIA_B	T494B106M010AS	Kemet		
	C22	CCPOL_EIA_B	10uf	CAPACITOR TANT 10UF 10V 20% SMT	CCPOL_EIA_B	T494B106M010AS	Kemet		
4	C13	CCPOL_EIA_C	1uF, 50V	CAPACITOR TANT 1.0UF 50V 10% SMT	CCPOL_EIA_C	T491C105K050AS	Panasonic		
	C20	CCPOL_EIA_C	1uF, 50V	CAPACITOR TANT 1.0UF 50V 10% SMT	CCPOL_EIA_C	T491C105K050AS	Panasonic		
	C26	CCPOL_EIA_C	1uF, 50V	CAPACITOR TANT 1.0UF 50V 10% SMT	CCPOL_EIA_C	T491C105K050AS	Panasonic		
	C39	CCPOL_EIA_C	1uF, 50V	CAPACITOR TANT 1.0UF 50V 10% SMT	CCPOL_EIA_C	T491C105K050AS	Panasonic		
1	X1	CM309A-CRYSTAL	11.0592Mhz	CRYSTAL 11.0592 MHZ SMD 18PF	CM309A	CM309A11.0592MABJT	Citizen America Corporation		
3	D2	DIODE-SCHOTTKY-SMC	MBRS340TR	DIODE SCHOTTKY 40V 3A SMC	SMC	MBRS340TR	International Rectifier		
	D3	DIODE-SCHOTTKY-SMC	MBRS340TR	DIODE SCHOTTKY 40V 3A SMC	SMC	MBRS340TR	International Rectifier		
	D7	DIODE-SCHOTTKY-SMC	MBRS340TR	DIODE SCHOTTKY 40V 3A SMC	SMC	MBRS340TR	International Rectifier		
1	P1	IDC2X8M		IDC Header	IDC16M				
2	L2	IND-CDRH127	220uH	POWER INDUCTOR 220UH 1.16A SMD	IND_CDRH127	CDRH127-221MC	Sumida Corporation		
	L3	IND-CDRH127	220uH	POWER INDUCTOR 220UH 1.16A SMD	IND_CDRH127	CDRH127-221MC	Sumida Corporation		
1	J6	JMPR-2	{Value}		JMPR2				
1	D1	LED	FAULT	LED 5MM RED DIFFUSED	LED100	LTL-4203	Lite-On		
1	U5	LM324AM		Low Power Quad Operational Amplifier	SO14				
1	VR2	LM2575-T0263	LM2575HVS-5.0	IC SIMPLE SWITCHER REG TO263-5	TO-263-5	LM2575HVS-5.0	National Semiconductor		
1	VR1	LM2575-T0263	LM2575HVS-12	IC SIMPLE SWITCHER REG TO263-5	TO-263-5	LM2575HVS-12	National Semiconductor		
1	CN1	LV-ICSP-CONNECTOR	{Value}		ICSP-CONN				
1	U13A1	MC33035DW	MC33035DW	Brushless DC Motor Controller	SO24	MC33035DW	ON Semiconductor		
1	U13B1	MC33035P	{Value}	Brushless DC Motor Controller	DIP24_300	MC33035P	ON Semiconductor		
1	U6B1	MC33039D		Closed loop brushless motor adapter	SO8	MC33039D	ON Semiconductor		
1	U6A1	MC33039N		Closed loop brushless motor adapter	DIP8_300	MC33039N	ON Semiconductor		
3	Q5	MOSFET-IRF-N	IRF540	HEXFET (N) 100V 0.077RDS	TO-262	IRF540	International Rectifier		
	Q6	MOSFET-IRF-N	IRF540	HEXFET (N) 100V 0.077RDS	TO-262	IRF540	International Rectifier		
	Q7	MOSFET-IRF-N	IRF540	HEXFET (N) 100V 0.077RDS	TO-262	IRF540	International Rectifier		
4	Q1	MOSFET-IRF-P-VERTICAL	IRF5210	HEXFET(P) 100VDS .060RDS TO-220	TO-220-VERTICAL	IRF5210	International Rectifier		
	Q2	MOSFET-IRF-P-VERTICAL	IRF5210	HEXFET(P) 100VDS .060RDS TO-220	TO-220-VERTICAL	IRF5210	International Rectifier		
	Q3	MOSFET-IRF-P-VERTICAL	IRF5210	HEXFET(P) 100VDS .060RDS TO-220	TO-220-VERTICAL	IRF5210	International Rectifier		
	Q4	MOSFET-IRF-P-VERTICAL	IRF5210	HEXFET(P) 100VDS .060RDS TO-220	TO-220-VERTICAL	IRF5210	International Rectifier		
1	MH1	MOUNTING HOLE	Do Not Populate		MOUNTING HOLE				
1	U8B1	NJM4151D	NJM4151D	V-F/F-V Converter	DIP8_300	NJM4151D	New Japan Radio Co.		
1	U8A1	NJM4151M	{Value}	V-F/F-V Converter	SO8	NJM4151M	New Japan Radio Co.		
1	U1	PIC16F877-20/L-SOCKET	PIC16F877	IC MCU FLASH 8KX14 EE 44PLCC	PLCC_SOC44	PIC16F877-20I/L	Microchip Technology		
2	TP1	PNLTEC-TESTPOINT			TPOINT				
	TP2	PNLTEC-TESTPOINT			TPOINT				
1	R20	POT_BOURNS3296	100K	POT 100K OHM 3/8 SQ CERM SL MT"	POT	3296W-1-104	Bourns		
1	F1	PTC-SMD-1812	1812L050	Resettable PTC Fuse	PTC-SMD-1812	1812L050	Littelfuse		
2	J1	QUICK-FIT TERMINAL-1286	1286	Quick-Fit Terminal-Sturdi Mount	QUICK-FIT TERMINAL-1286	1286	Keystone	E201546	82-(1988) a
	J2	QUICK-FIT TERMINAL-1286	1286	Quick-Fit Terminal-Sturdi Mount	QUICK-FIT TERMINAL-1286	1286	Keystone	E201546	82-(1988) a
2	J3	QUICK-FIT TERMINAL-1286	1286	Quick-Fit Terminal-Sturdi Mount	QUICK-FIT TERMINAL-1286	1286	Keystone	E201546	
	J4	QUICK-FIT TERMINAL-1286	1286	Quick-Fit Terminal-Sturdi Mount	QUICK-FIT TERMINAL-1286	1286	Keystone	E201546	
3	R4	RC0805	0	RES 0.0 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEY0R00V	Panasonic		
	R11	RC0805	0	RES 0.0 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEY0R00V	Panasonic		
	R104	RC0805	0	RES 0.0 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEY0R00V	Panasonic		
2	R23	RC0805	1M	RES 1.0M OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ105V	Panasonic		
	R58	RC0805	1M	RES 1.0M OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ105V	Panasonic		
1	R26	RC0805	2K	RES 2.0K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ202V	Panasonic		
2	R9	RC0805	4.7K	RES 4.7K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ472V	Panasonic		
	R17	RC0805	4.7K	RES 4.7K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ472V	Panasonic		
1	R3	RC0805	4.7K	RES 4.7K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ472V	Panasonic		
1	R18	RC0805	5.1K	RES 5.1K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ512V	Panasonic		
1	R37	RC0805	6.8K	RES 6.8K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ682V	Panasonic		
2	R6	RC0805	8.2K	RES 8.2K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ822V	Panasonic		
	R34	RC0805	8.2K	RES 8.2K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ822V	Panasonic		
6	R45	RC0805	10	RES 10 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ100V	Panasonic		
	R46	RC0805	10	RES 10 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ100V	Panasonic		
	R47	RC0805	10	RES 10 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ100V	Panasonic		
	R55	RC0805	10	RES 10 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ100V	Panasonic		
	R56	RC0805	10	RES 10 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ100V	Panasonic		
	R57	RC0805	10	RES 10 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ100V	Panasonic		
1	R14	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		

11	R1	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		
	R7	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		
	R24	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		
	R35	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		
	R39	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		
	R42	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		
	R43	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		
	R44	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		
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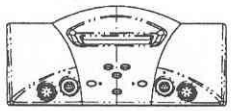
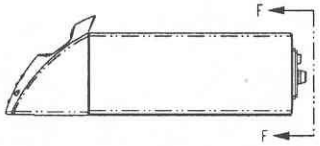
	R51	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		
	R52	RC0805	10K	RES 10K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ103V	Panasonic		
1	R13	RC0805	12K	RES 12K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ123V	Panasonic		
1	R8	RC0805	15K	RES 15K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ153V	Panasonic		
1	R2	RC0805	68K	RES 68K OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ683V	Panasonic		
2	R53	RC0805	100	RES 100 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ101V	Panasonic		
	R54	RC0805	100	RES 100 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ101V	Panasonic		
1	R12	RC0805	100K	RES 100K OHM 1/8W 1% 0805 SMD	CC0805	ERJ-6GEYJ104V	Panasonic		
2	R25	RC0805	200	RES 200 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ201V	Panasonic		
	R36	RC0805	200	RES 200 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ201V	Panasonic		
3	R21	RC0805	330	RES 330 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ331V	Panasonic		
	R41	RC0805	330	RES 330 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ331V	Panasonic		
	R48	RC0805	330	RES 330 OHM 1/8W 5% 0805 SMD	CC0805	ERJ-6GEYJ331V	Panasonic		
1	R5	RC1206	2K	RES 2.0K OHM 1/4W 5% 1206 SMD	CC1206	ERJ-8GEYJ202V	Panasonic		
1	R30	RC1206	10K	RES 10K OHM 1/4W 5% 1206 SMD	CC1206	ERJ-8GEYJ103V	Panasonic		
1	R10	RC1206	30	RES 30 OHM 1/4W 5% 1206 SMD	CC1206	ERJ-8GEYJ300V	Panasonic		
1	R38	RC1206	47	RES 47 OHM 1/8W 5% 1206 SMD	CC1206	ERJ-8GEYJ470V	Panasonic		
5	SW1	RELAY-2FORMC DPDT	RTE24005	2 Form C Relay DPDT	RELAY-2FORMC DPDT	RTE24005	Tyco		
	SW2	RELAY-2FORMC DPDT	RTE24005	2 Form C Relay DPDT	RELAY-2FORMC DPDT	RTE24005	Tyco		
	SW3	RELAY-2FORMC DPDT	RTE24005	2 Form C Relay DPDT	RELAY-2FORMC DPDT	RTE24005	Tyco		
	SW4	RELAY-2FORMC DPDT	RTE24005	2 Form C Relay DPDT	RELAY-2FORMC DPDT	RTE24005	Tyco		
	SW5	RELAY-2FORMC DPDT	RTE24005	2 Form C Relay DPDT	RELAY-2FORMC DPDT	RTE24005	Tyco		
7	R19	RES2010_IRC_D	1K	RES 1.0K OHM 1/2W 5% 2010 SMD	RES2010_IRC_D	ERJ-12ZYJ102U	Panasonic		
	R27	RES2010_IRC_D	1K	RES 1.0K OHM 1/2W 5% 2010 SMD	RES2010_IRC_D	ERJ-12ZYJ102U	Panasonic		
	R28	RES2010_IRC_D	1K	RES 1.0K OHM 1/2W 5% 2010 SMD	RES2010_IRC_D	ERJ-12ZYJ102U	Panasonic		
	R29	RES2010_IRC_D	1K	RES 1.0K OHM 1/2W 5% 2010 SMD	RES2010_IRC_D	ERJ-12ZYJ102U	Panasonic		
	R31	RES2010_IRC_D	1K	RES 1.0K OHM 1/2W 5% 2010 SMD	RES2010_IRC_D	ERJ-12ZYJ102U	Panasonic		
	R32	RES2010_IRC_D	1K	RES 1.0K OHM 1/2W 5% 2010 SMD	RES2010_IRC_D	ERJ-12ZYJ102U	Panasonic		
	R33	RES2010_IRC_D	1K	RES 1.0K OHM 1/2W 5% 2010 SMD	RES2010_IRC_D	ERJ-12ZYJ102U	Panasonic		
1	R16	RES2010_IRC_D	1K	RES 1K OHM 1/2W 5% 2010 SMD	RES2010_IRC_D	ERJ-12ZYJ102U	Panasonic		
1	R22	RES2512	560, 1W	RES 560 OHM 1W 5% 2512 SMD	RES2512_IRC_F	ERJ-1WYJ561U	Panasonic		
1	RN1	RES-ARRAY4X.1W	1k	RES ARRAY 1K OHM 8TERM 4RES SMD	RES-ARRAY.1W	743C083102JTR	CTS Corporation		
1	RN2	RES-ARRAY4X.125W	300 Ohm	RES ARRAY 330 OHM 8TERM 4RES SMD	RN-ARRAY.125W	744C083331JTR	CTS		
1	R40	RES-ERG(X)2H	0.1, 2W	RES .10 OHM 2W 5% METAL FLM SMD	RES_ERG(X)2H	ERX-2HZJR10H	Panasonic		
1	J5	SERIALCOMM	{Value}		SERIAL-BST-105				
1	L1	TOR_COILTRON	220uH		COILTRON TOR	70240	Coiltron		
1	U4	UC3524ADW	UC3524ADW	IC REGULATING PWM 16-SOP	SO16A	UC3524ADW	Texas Instruments		
2	U7	ULN2003A-SO16	ULN2003AD	IC DARL TRANS ARRAY 16-SOIC	SO16	ULN2003AD	Texas Instruments		
	U8	ULN2003A-SO16	ULN2003AD	IC DARL TRANS ARRAY 16-SOIC	SO16	ULN2003AD	Texas Instruments		

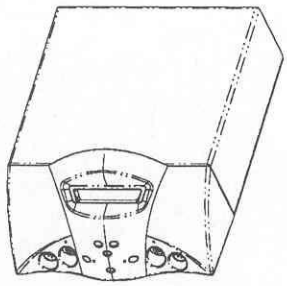
DWG NO V10201-10000 | SHT 1 | REV -

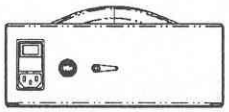
REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	-	INITIAL RELEASE		









SECTION F-F

V10201-10000-001 SHOWN			
V10201-10000-001			
PART NO.	NEXT ASSY	QTY REQ	INDEX NO
	APPLICATION		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS ANGLES
± — .XX ±.03 ±.5°
.XXX ±.010
MATERIAL
FINISH

SEE SEPARATE PARTS LIST

CONTRACT NO.

	APPROVED	DATE
DRAWN	ABC	03-22-02
CHECKED		
ENG'G	ABC	03-22-02
MFG'G		
TECHNICAL		
MATERIALS		
SAFETY		
QA		
APE		
PROJ. ENGR		
CHIEF ENGR		

Paragon Medical Inc.
1250 Brightleaf Boulevard, Suite 400
Smithfield, North Carolina 27577

TITLE
VILEX MOTOR CONTROLLER
TOP ASSEMBLY

SIZE D | CAGE CODE | DOC NO. V10201-10000

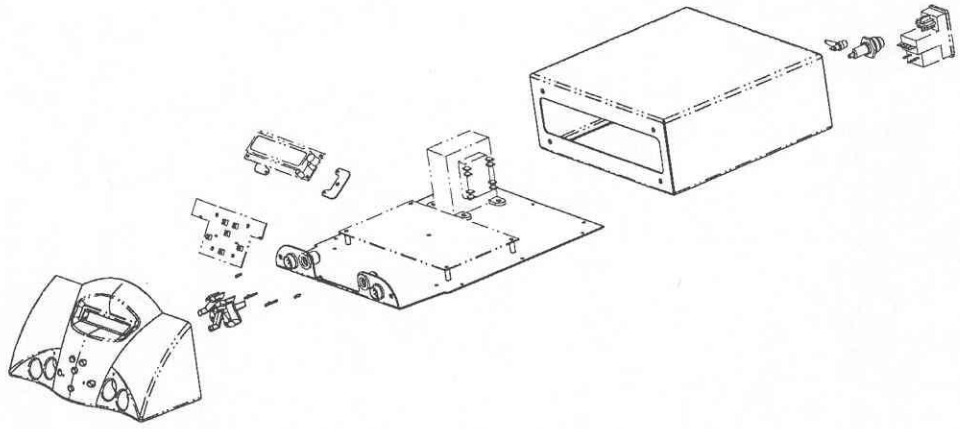
SCALE: 1/2 | WEIGHT: 7.661 LB | SHEET 1 OF 2

CAD DRAWING FILE NAME: V10201-10000.DWG

DWG NO.	V10201-10000	REV
		-

REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	-	SEE SHEET ONE		

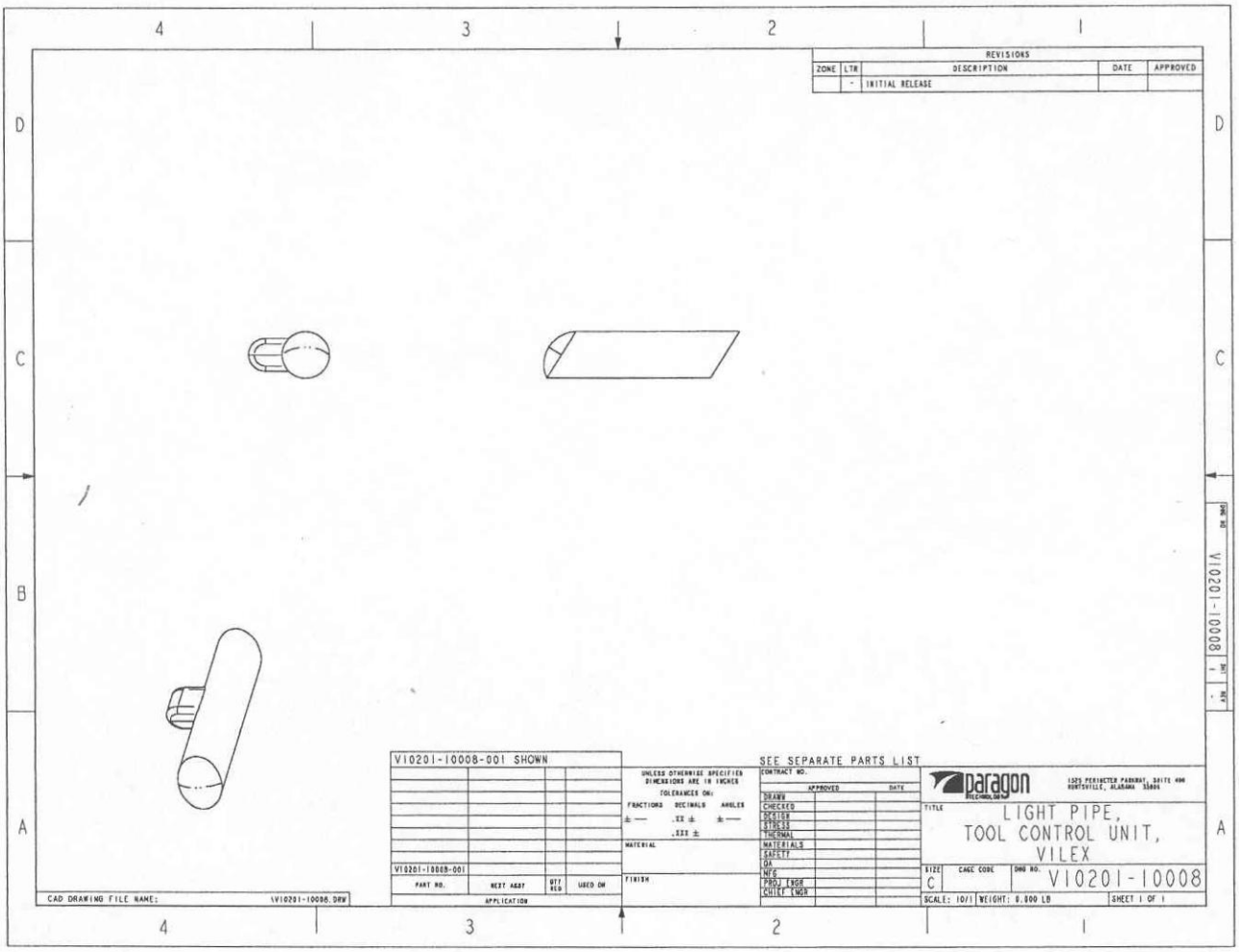


CUSTOMER SUPPLIED ITEMS ARE SHOWN IN PHANTOM

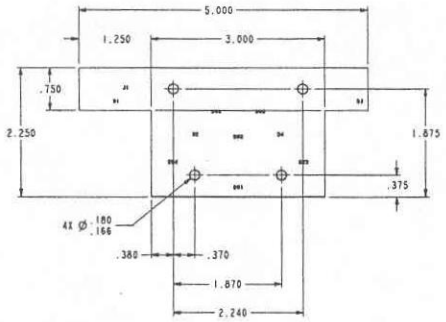
SIZE	CAGE CODE	DWG NO.
D		V10201-10000

SCALE: 1/2 | WEIGHT: 7.991 LB | SHEET 2

CAD DRAWING FILE NAME: V10201-10000.DWG


4
3
2
1
D
C
B
A
REVISIONS
ZONE LTR DESCRIPTION DATE APPROVED
- INITIAL RELEASE
V10201-10008-001 SHOWN
SEE SEPARATE PARTS LIST
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
± — .XX ± ± —
.XXX ±
MATERIAL
FINISH
CONTRACT NO.
APPROVED DATE
DRAWN
CHECKED
DESIGN
STRESS
THERMAL
MATERIALS
SAFETY
QA
MFG
PROJ ENGR
CHIEF ENGR
paragon TECHNOLOGY
1525 PERIMETER PARKWAY, SUITE 400
HUNTSVILLE, ALABAMA 35806
TITLE
LIGHT PIPE,
TOOL CONTROL UNIT,
VILEX
SIZE C
CAGE CODE
DWG NO. V10201-10008
SCALE: 10/1 WEIGHT: 0.000 LB
SHEET 1 OF 1
V10201-10008-001
PART NO.
NEXT ASSY
QTY REQ
USED ON
APPLICATION
CAD DRAWING FILE NAME: V10201-10008.DRW
DO NOT SCALE DRAWING
V10201-10008
REV -

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	*	INITIAL RELEASE		



V10201-10007-001 SHOWN			
V10201-10007-001	V10201-10006-001	1	VILEX
PART NO.	NEXT ASSY	QTY REQ	USED ON
APPLICATION			

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS ± — DECIMALS .XX ±.03 .XXX ±.010 ANGLES ± —
MATERIAL
FINISH

SEE SEPARATE PARTS LIST

CONTRACT NO. SE020628V11A		
APPROVED		DATE
DRAWN	C. STAPLER	02-11-05
CHECKED	C. STAPLER	02-11-05
DESIGN	C. STAPLER	02-11-05
STRESS		
THERMAL		
MATERIALS		
SAFETY		
QA		
MFG		
PROJ ENGR	C. STAPLER	02-11-05
CHIEF ENGR		

paragon TECHNOLOGY
1309 PERIMETER PARKWAY, SUITE 400 HUNTSVILLE, ALABAMA 35806

TITLE PRINTED WIRING BOARD, TOOL CONTROL UNIT, VILEX

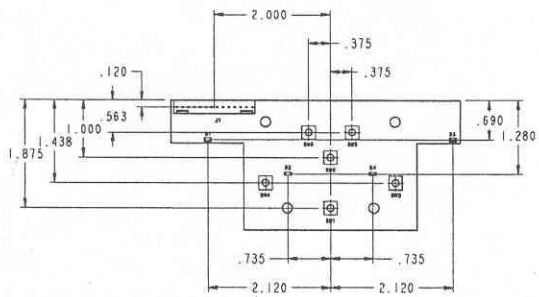
SIZE	CAGE CODE	DWG NO.
C		V10201-10007

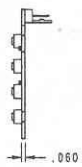
SCALE: 1/1 | WEIGHT: 0.000 LB | SHEET 1 OF 1

CAD DRAWING FILE NAME: V10201-10007.DRW

V10201-10007 REV A

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	-	INITIAL RELEASE		





V10201-10006

V10201-10006-001 SHOWN			
PART NO.	NEXT ASSY	QTY REQ	USED ON
V10201-10006-001	V10201-10000-001	1	VILEX
APPLICATION			

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS ± — DECIMALS .XX ±.03 .XXX ±.010 ANGLES ± —
MATERIAL
FINISH

SEE SEPARATE PARTS LIST

CONTRACT NO. SE020628V11A		
APPROVED		DATE
DRAWN	C. STAPLER	02-11-05
CHECKED	C. STAPLER	02-11-05
DESIGN	C. STAPLER	02-11-05
STRESS		
THERMAL		
MATERIALS		
SAFETY		
QA		
MFG		
PROJ ENGR	C. STAPLER	02-11-05
CHIEF ENGR		

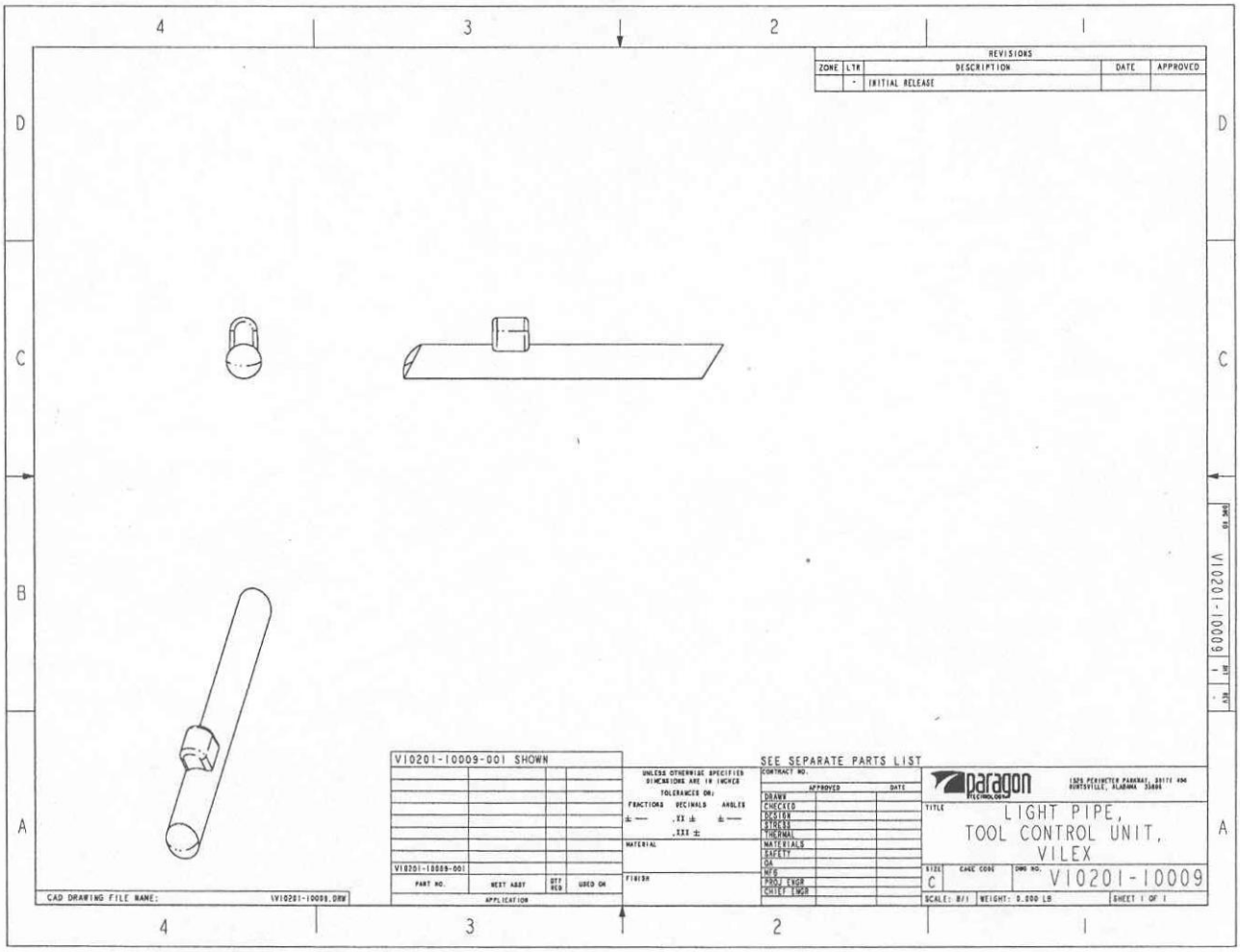
paragon TECHNOLOGY
1525 PERIMETER PARKWAY, SUITE 400
HUNTSVILLE, ALABAMA 35806

TITLE
PRINTED WIRING ASSEMBLY,
TOOL CONTROL UNIT,
VILEX

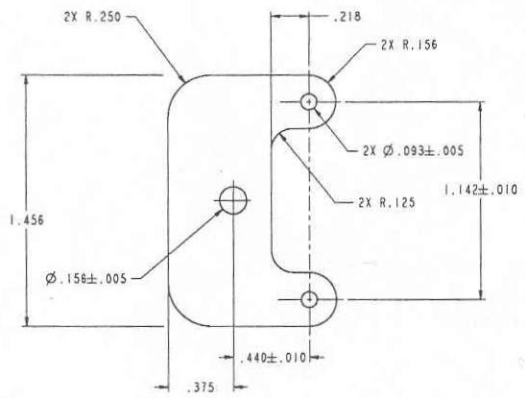
SIZE	CAGE CODE	DWG NO.
C		V10201-10006

SCALE: 1/1 | WEIGHT: 0.000 LB | SHEET 1 OF 1

CAD DRAWING FILE NAME: \V10201-10006.DRW


4
3
2
1
D
C
B
A
REVISIONS
ZONE | LTR | DESCRIPTION | DATE | APPROVED
- | INITIAL RELEASE
V10201-10009
V10201-10009-001 SHOWN
SEE SEPARATE PARTS LIST
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
± — .XX ± ± —
.XXX ±
MATERIAL
FINISH
CONTRACT NO.
APPROVED DATE
DRAWN
CHECKED
DESIGN
STRESS
THERMAL
MATERIALS
SAFETY
QA
MFG
PROJ. ENGR
CHIEF ENGR
paragon TECHNOLOGY
1505 PERIMETER PARKWAY, SUITE 450
HUNTSVILLE, ALABAMA 35806
TITLE
LIGHT PIPE,
TOOL CONTROL UNIT,
VILEX
SIZE C
CAGE CODE
DWG NO. V10201-10009
SCALE: 8/1
WEIGHT: 0.000 LB
SHEET 1 OF 1
PART NO. | NEXT ASSY | QTY REQ | USED ON
V10201-10009-001
APPLICATION
CAD DRAWING FILE NAME: V10201-10009.DRW

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	-	INITIAL RELEASE		



NOTES:

1. THIS DRAWING IS CAD GENERATED, NO MANUAL CHANGES AUTHORIZED AFTER RELEASE.
2. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1982.
3. MATERIAL: F/N 1, 20 GAGE, STEEL COLD ROLLED SHEET PER ASTM A-366.
4. FINISH: F/N 2, POWDER COAT PER COLOR BLACK
5. REMOVE ALL BURRS AND BREAK SHARP EDGES.
6. ALL FILLET RADII SHALL BE .03, UNLESS OTHERWISE SPECIFIED.

V10201-10005-001 SHOWN

SEE SEPARATE PARTS LIST

PART NO.	NEXT ASSY	QTY REQ	USED ON
V10201-10003-001	V10201-10001-001	2	VILEZ

APPLICATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS ± — DECIMALS .XX ± .015 ANGLES ± —

MATERIAL

FINISH

CONTRACT NO.

	APPROVED	DATE
DRAWN	A.FAIRCHILD	11-13-02
CHECKED		
DESIGN	A.FAIRCHILD	11-5-02
STRESS		
THERMAL		
MATERIALS		
SAFETY		
QA		
MFG		
PROJ ENGR		
CHIEF ENGR		

paragon TECHNOLOGIES

1325 PERIMETER PARKWAY, SUITE 406 HUNTSVILLE, ALABAMA 35806

TITLE

BRACKET-LCD

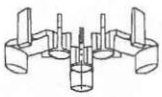
SIZE C | CAGE CODE | DWG NO. V10201-10005

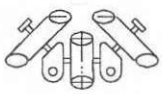
SCALE: 3/1 | WEIGHT: 9.000 LB | SHEET 1 OF 1

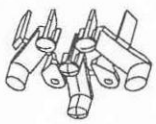
CAD DRAWING FILE NAME: \V10201-10003.DRW

V10201-10005 1 -

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	-	INITIAL RELEASE		







V10201-10004 1

V10201-10004-001 SHOWN

PART NO.	NEXT ASSY	QTY REQ	USED ON
V10201-10004-001			

APPLICATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS ± — DECIMALS .XX ± .XXX ± ANGLES ± —

MATERIAL

FINISH

SEE SEPARATE PARTS LIST

CONTRACT NO.

	APPROVED	DATE
DRAWN		
CHECKED		
DESIGN		
STRESS		
THERMAL		
MATERIALS		
SAFETY		
QA		
MFG		
PROJ ENGR		
CHIEF ENGR		

paragon TECHNOLOGY

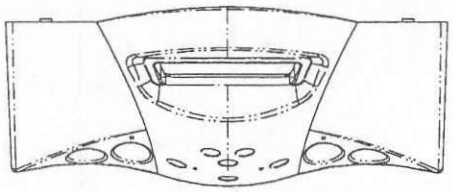
1329 PERIMETER PARKWAY, SUITE 450
HUNTSVILLE, ALABAMA 35806

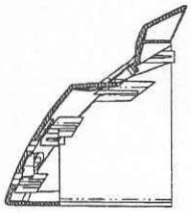
TITLE
BUTTON-ACTUATOR, TOOL CONTROL UNIT, VILEX

SIZE C | CAGE CODE | DWG NO. V10201-10004

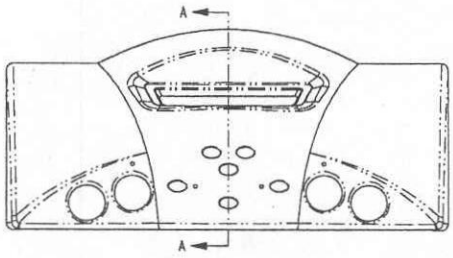
SCALE: 1/1 | WEIGHT: 0.000 LB | SHEET 1 OF 1

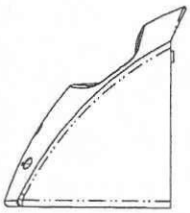
CAD DRAWING FILE NAME: V10201-10004.DRW

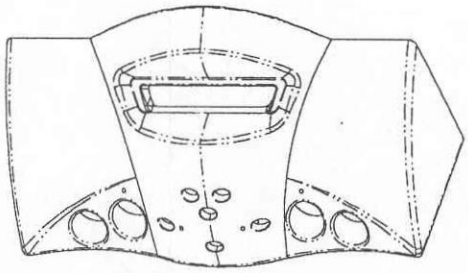




SECTION A-A







V10201-10003 | REV 1 | SHT -

REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	-	INITIAL RELEASE		

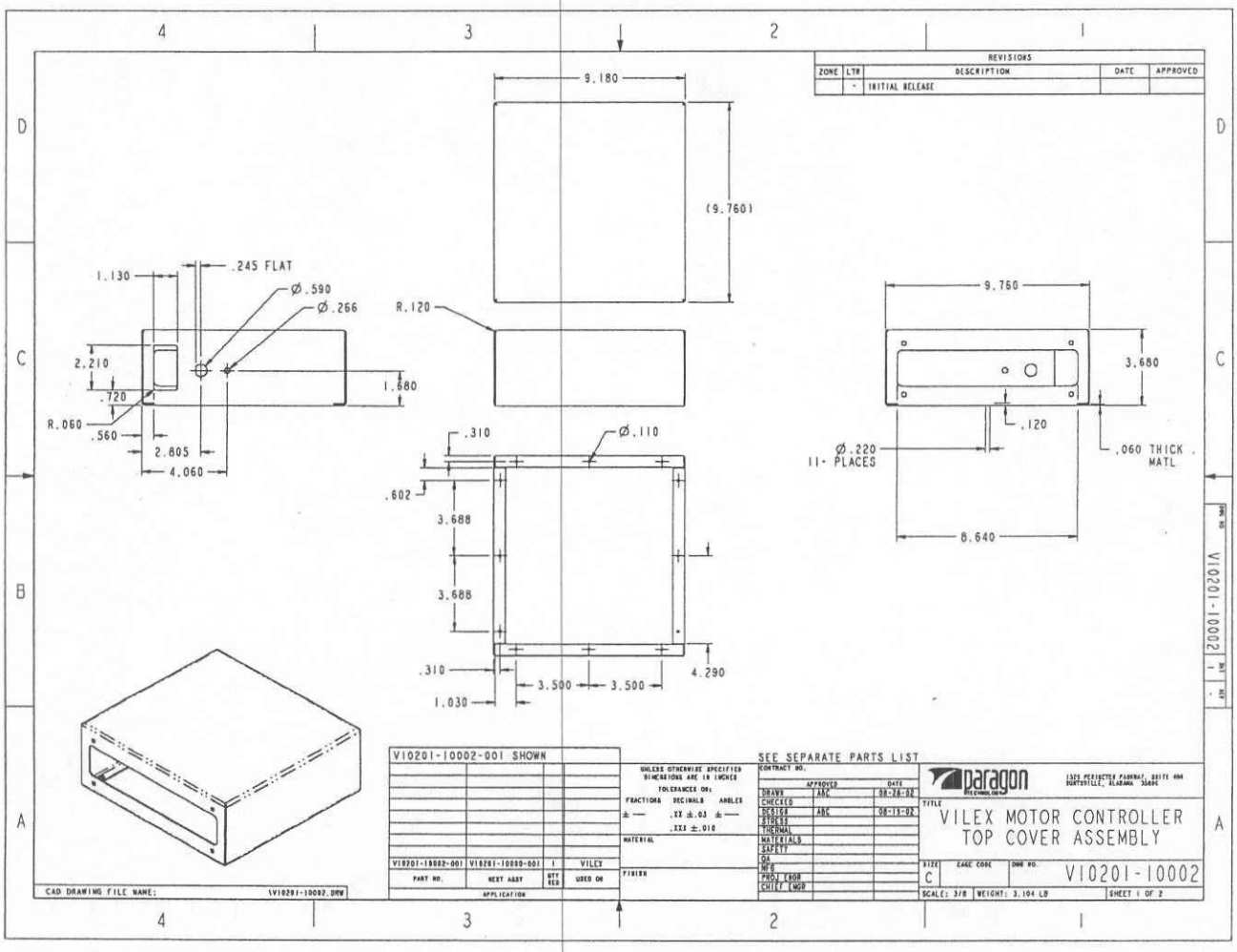
V10201-10003-001 SHOWN

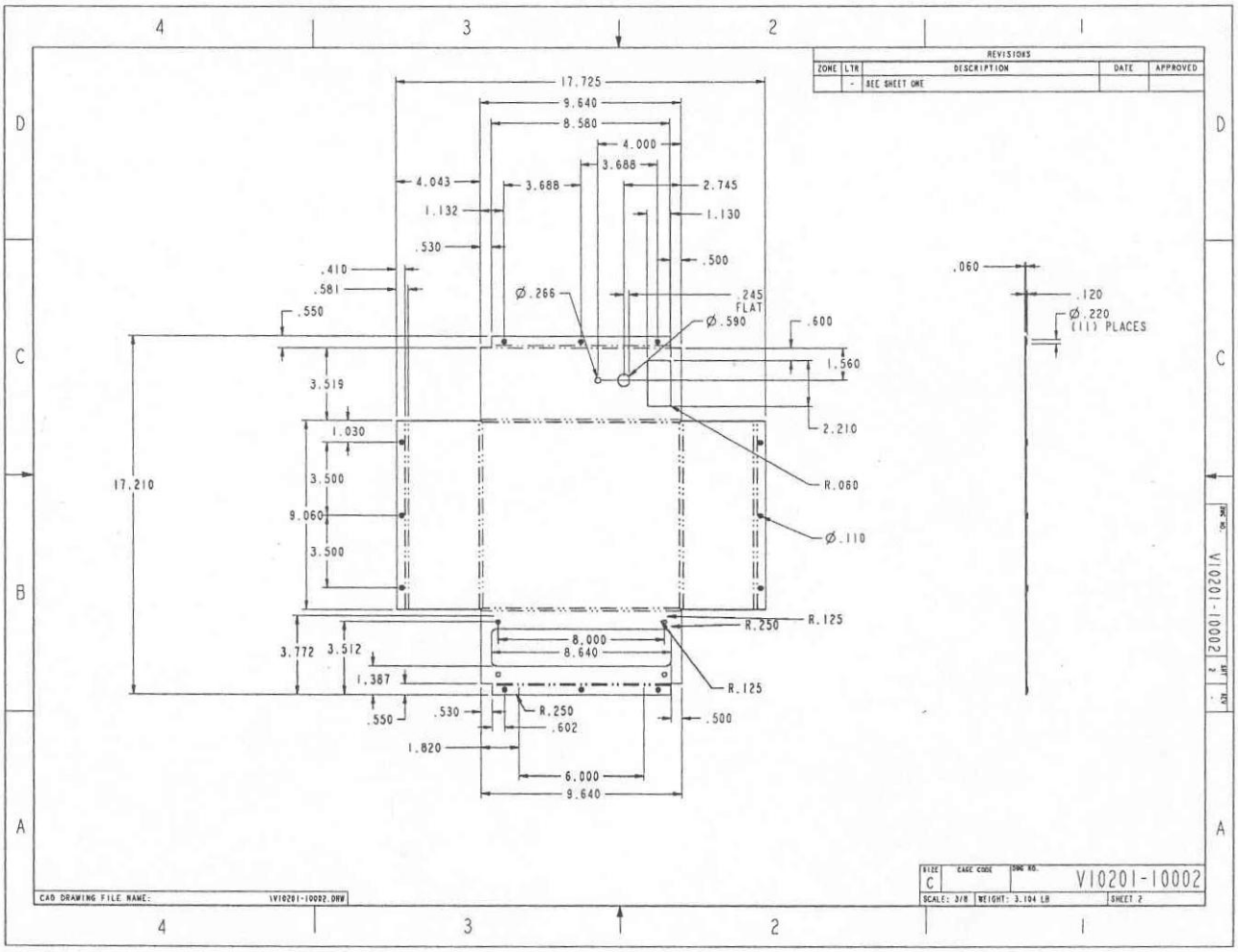
SEE SEPARATE PARTS LIST

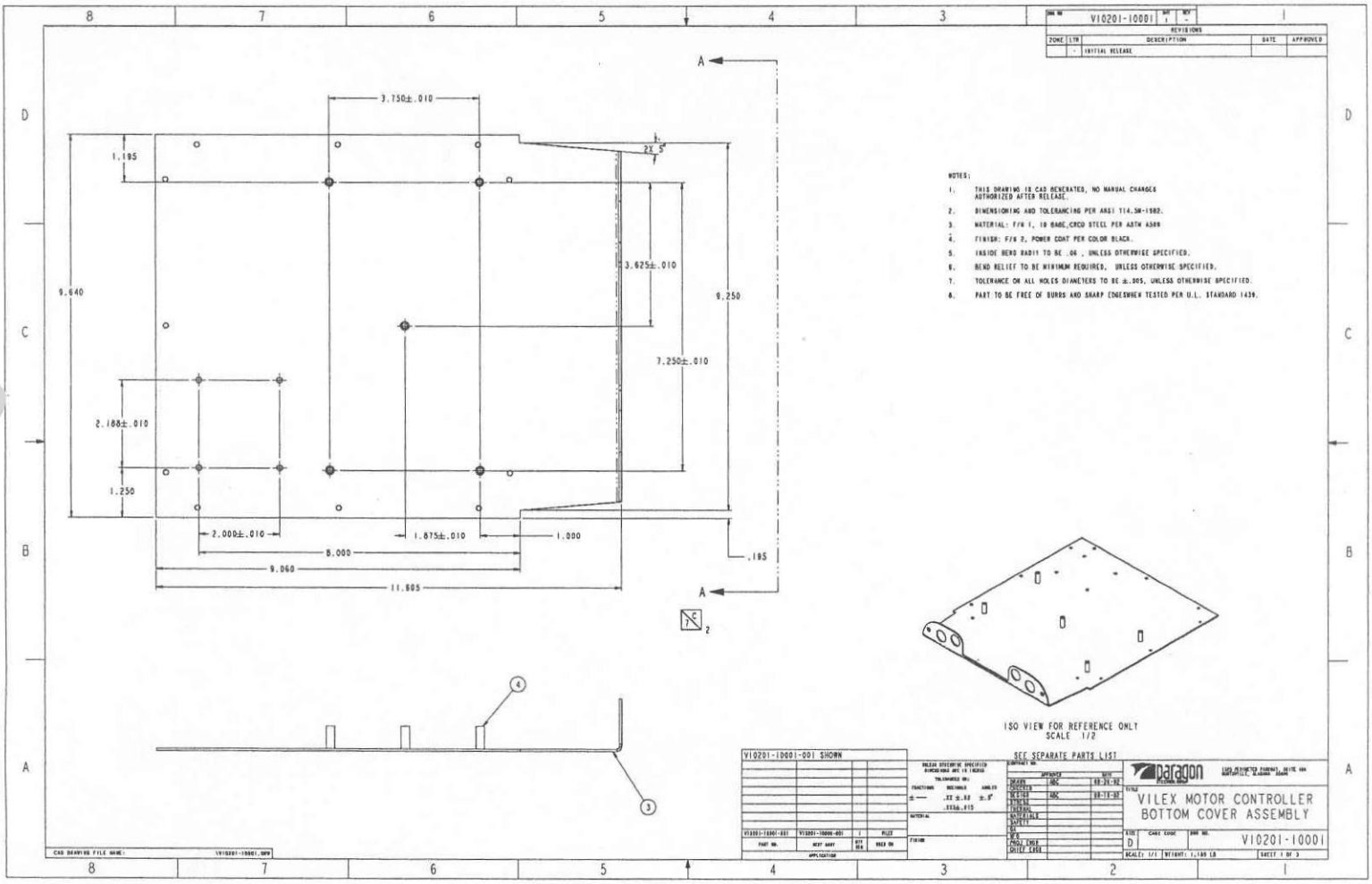
paragon

SIZE D | CAGE CODE | DWG NO. V10201-10003

SCALE: 1/1 | WEIGHT: 0.990 LB | SHEET 1 OF 1


4
3
2
1
D
C
B
A
REVISIONS
ZONE | LTR | DESCRIPTION | DATE | APPROVED
- | INITIAL RELEASE
9.180
(9.760)
R.120
1.130
.245 FLAT
Ø.590
Ø.266
2.210
.720
1.680
R.060
.560
2.805
4.060
.310
Ø.110
.602
3.688
3.688
.310
3.500
3.500
4.290
1.030
9.760
3.680
.120
Ø.220
11 PLACES
.060 THICK MATL
8.640
V10201-10002-001 SHOWN
V10201-10002-001 | V10201-10000-001 | 1 | VILEX
PART NO. | NEXT ASSY | QTY REQ | USED ON
APPLICATION
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
± — .XX ±.03 ± —
.XXX ±.010
MATERIAL
FINISH
SEE SEPARATE PARTS LIST
CONTRACT NO.
APPROVED | DATE
DRAWN | ABC | 08-28-02
CHECKED
DESIGN | ABC | 08-13-02
STRESS
THERMAL
MATERIALS
SAFETY
QA
MFG
PROJ. ENGR
CHIEF ENGR
paragon
1325 PERIMETER PARKWAY, SUITE 404
HUNTSVILLE, ALABAMA 35806
TITLE
VILEX MOTOR CONTROLLER
TOP COVER ASSEMBLY
SIZE C | CAGE CODE | DWG NO. V10201-10002
SCALE: 3/8 | WEIGHT: 3.104 LB | SHEET 1 OF 2
CAD DRAWING FILE NAME: V10201-10002.DRW
NEXT ASSY
V10201-10002
NEXT ASSY


REVISIONS
ZONE | LTR | DESCRIPTION | DATE | APPROVED
- | SEE SHEET ONE
17.725
9.640
8.580
4.000
3.688
4.043
3.688
2.745
1.132
1.130
.530
.500
.410
.581
.550
Ø.266
.245 FLAT
Ø.590
.600
1.560
2.210
3.519
1.030
3.500
9.060
3.500
17.210
R.060
Ø.110
R.250
R.125
8.000
8.640
3.772
3.512
1.387
.550
.530
R.250
.602
.500
1.820
6.000
9.640
.060
.120
Ø.220
(11) PLACES
CAD DRAWING FILE NAME: V10201-10002.DRW
SIZE C
CAGE CODE
DWG NO. V10201-10002
SCALE: 3/8
WEIGHT: 3.104 LB
SHEET 2
V10201-10201A
REV
SHT NO. 2



NOTES:

1. THIS DRAWING IS CAD GENERATED, NO MANUAL CHANGES AUTHORIZED AFTER RELEASE.
2. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1982.
3. MATERIAL: F/R 1, 18 GAGE,CRCD STEEL PER ASTM A569
4. FINISH: F/R 2, POWER COAT PER COLOR BLACK.
5. INSIDE BEND RADII TO BE .06 , UNLESS OTHERWISE SPECIFIED.
6. BEND RELIEF TO BE MINIMUM REQUIRED, UNLESS OTHERWISE SPECIFIED.
7. TOLERANCE ON ALL HOLES DIAMETERS TO BE ±.005, UNLESS OTHERWISE SPECIFIED.
8. PART TO BE FREE OF BURRS AND SHARP EDGESWHEN TESTED PER U.L. STANDARD 1439.

ISO VIEW FOR REFERENCE ONLY
SCALE 1/2

SEE SEPARATE PARTS LIST

DWG NO	REV
V10201-10001	-

REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	-	INITIAL RELEASE		

V10201-10001-001 SHOWN

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
± — .XX ±.02 ±.5°
.XXX ±.015
MATERIAL
FINISH

V10201-10001-001	V10201-10000-001	1	PILOT
PART NO.	NEXT ASSY	QTY REQ	USED ON
APPLICATION			

COMPANY NO.		
	APPROVER	DATE
DRAWN	ABC	08-24-02
CHECKED		
ENGR	ABC	08-13-02
STRESS		
THERMAL		
MATERIALS		
SAFETY		
QA		
M'G		
PROJ ENGR		
CUSTY APPR		

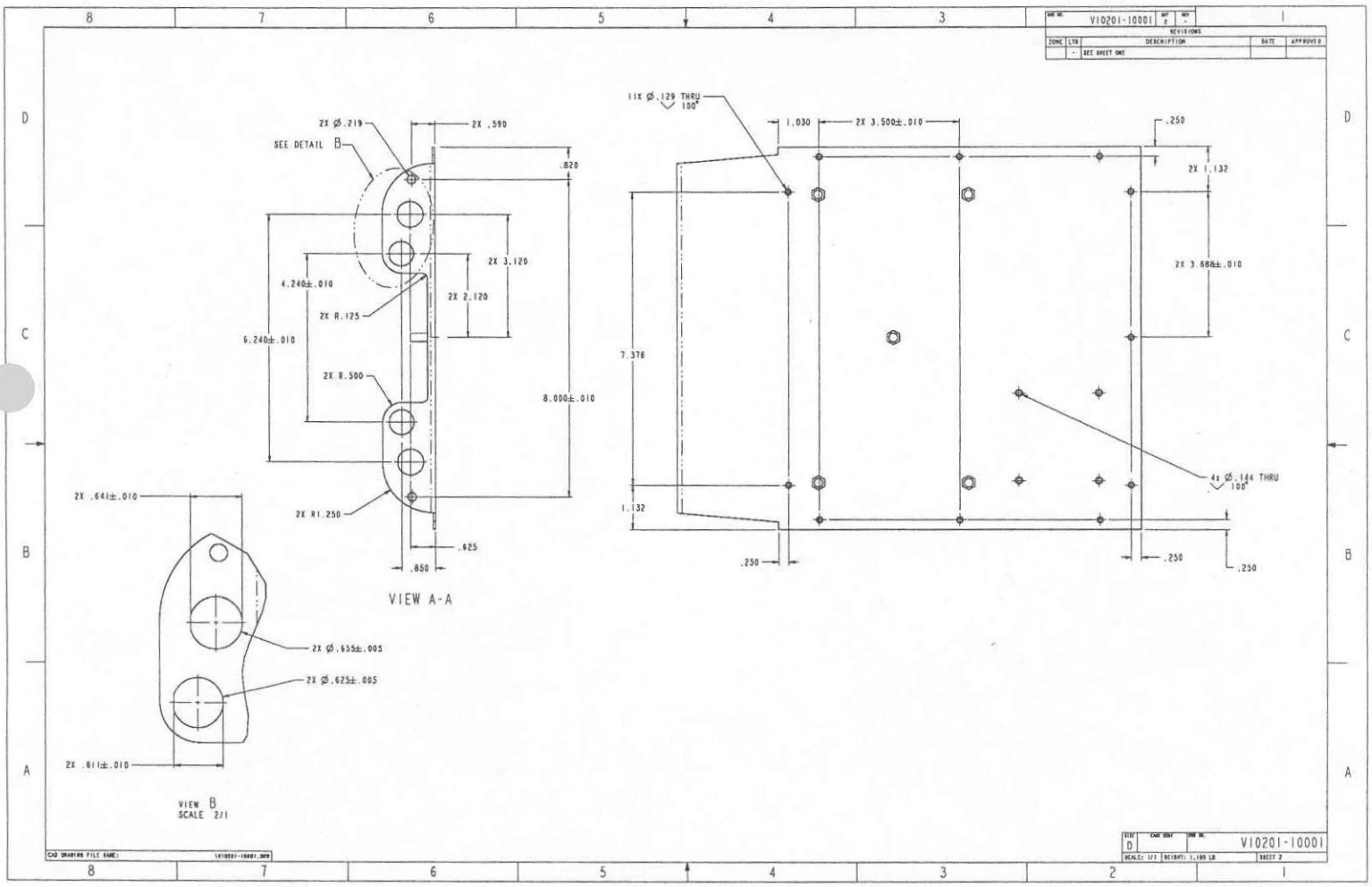
paragon
PARAGON MFG.
1200 N.MINUTEMAN PARKWAY, SUITE 104 HAYDEN, IDAHO 83835

TITLE
VILEX MOTOR CONTROLLER
BOTTOM COVER ASSEMBLY

SIZE	CAGE CODE	DWG NO.
D		V10201-10001

SCALE: 1/1 | WEIGHT: 1.149 LB | SHEET 1 OF 3

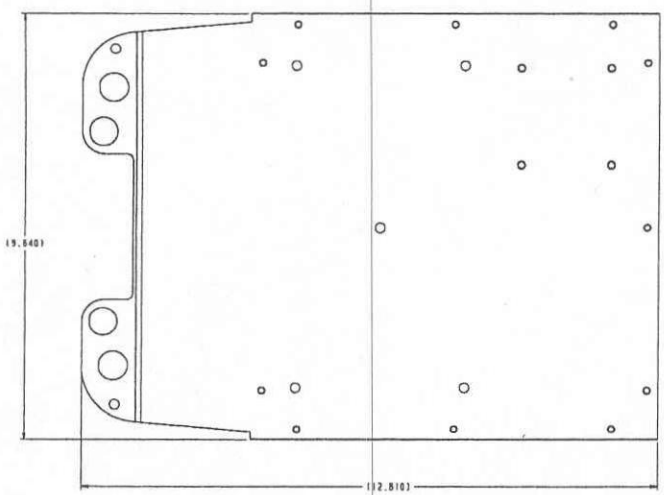
CAD DRAWING FILE NAME: V10201-10001.MFR


V10201-10001
REVISIONS
ZONE LTR DESCRIPTION DATE APPROVED
- SEE SHEET ONE
11X Ø.129 THRU
100°
1.030
2X 3.500±.010
.250
2X 1.132
2X 3.688±.010
7.378
4X Ø.144 THRU
100°
1.132
.250
.250
.250
2X Ø.219
2X .590
SEE DETAIL B
.820
2X 3.120
4.240±.010
2X 2.120
2X R.125
6.240±.010
2X R.500
8.000±.010
2X R1.250
.625
.850
VIEW A-A
2X .641±.010
2X Ø.655±.005
2X Ø.625±.005
2X .611±.010
VIEW B
SCALE 2/1
V10201-10001
SCALE: 1/1
SHEET 2

DWG NO.	REV
V10201-10001	-

REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	-	SEE SHEET ONE		

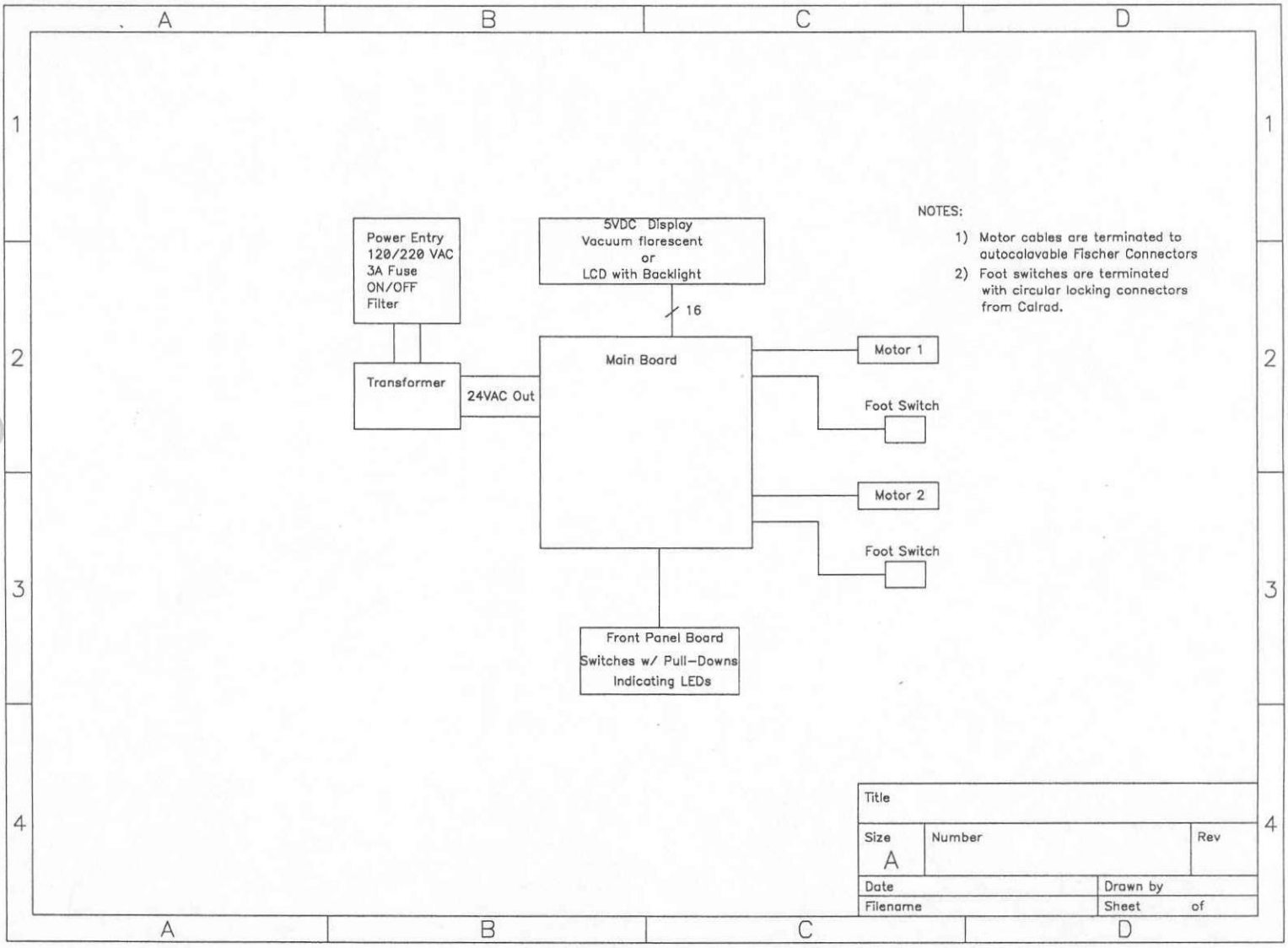


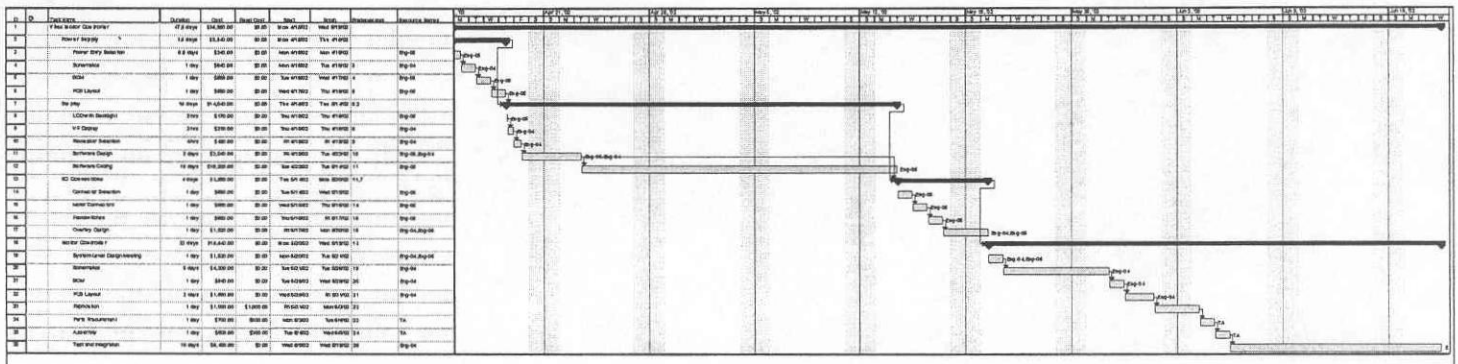
FLAT PATTERN VIEW

CAD DRAWING FILE NAME: V10201-10001.DWG

SIZE	CAGE CODE	DWG NO.
D		V10201-10001

SCALE: 1/1 WEIGHT: 1.131 LB SHEET 1


A
B
C
D
1
2
3
4
Power Entry
120/220 VAC
3A Fuse
ON/OFF
Filter
5VDC Display
Vacuum florescent
or
LCD with Backlight
16
Transformer
24VAC Out
Main Board
Motor 1
Foot Switch
Motor 2
Foot Switch
Front Panel Board
Switches w/ Pull-Downs
Indicating LEDs
NOTES:
1) Motor cables are terminated to autocalavable Fischer Connectors
2) Foot switches are terminated with circular locking connectors from Calrad.
Title
Size
A
Number
Rev
Date
Drawn by
Filename
Sheet
of



Footswitch Assembly Diagram

VILEX

VILEX Inc.
Manufacturer of Vilex™ bone implants,
Power equipment & surgical instruments.

Phone: (931) 474-7550
FAX: (931) 474-7551
www.vilex.com

522A Sparta Street
McMinnville, TN 37110 USA
TOLL FREE: 800-521-5002
E-mail: vilex@infoave.net

The PCF117 (Old Product# 9750-117 or 9750-117RS) Footswitch is Variable Speed

The PCF115 Footswitch is On/Off

The PCF116 Footswitch is On/Off Dual

There are no assembly diagrams for repairing the above footswitches. They are disposable. Please call Vilex for a replacement switch free of charge during the first year of service and for a minimal fee after that.

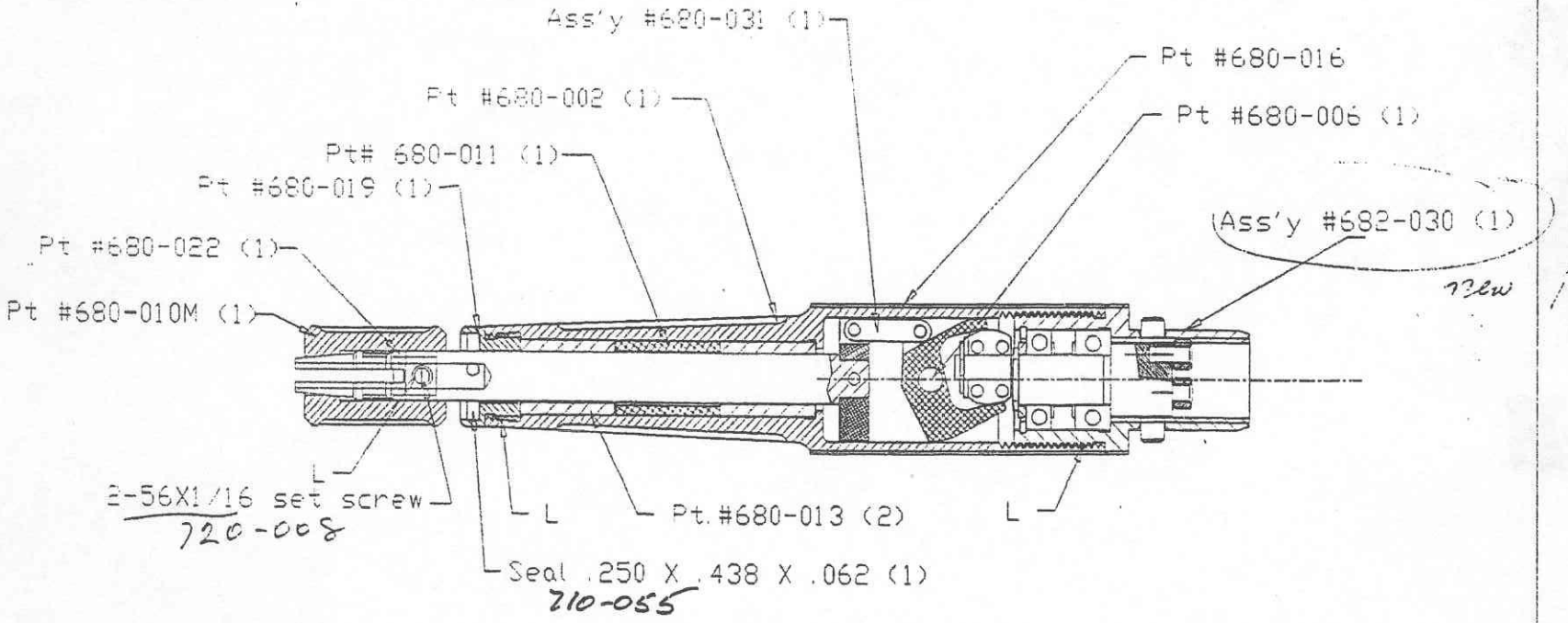
Please see your instruction manual for operation instructions.

Power Rasp Assembly Diagram

VILEX

H-1

682-000



PARTS-LIST

For Ass'y # 682-000 Page of

Final Ass'y # 682-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost For each Part
680-002	Front Housing	1	
680-006	Main Axle	1	
680-010M	Nut	1	
680-011	Front Spacer	1	
680-013	Sleeve Bearing	2	
680-016	Sleeve	1	
680-019	Cap	1	
680-022	Split Ring	1	
Seal 710-055	Seal Jet purchased	1	
682-030	Input Ass'y	1	
680-031	Arbor Ass'y	1	
720-008	8-56x1/16 set screw	1	
	Loctite	A/R	
	Loctite	A/R	

Comment:

PL-000

L=loctite these areas
use thread-Loc #242

Next Ass'y: final

REV	DATE	
A	3/29/95	RELEASE

TITLE Power Rasp

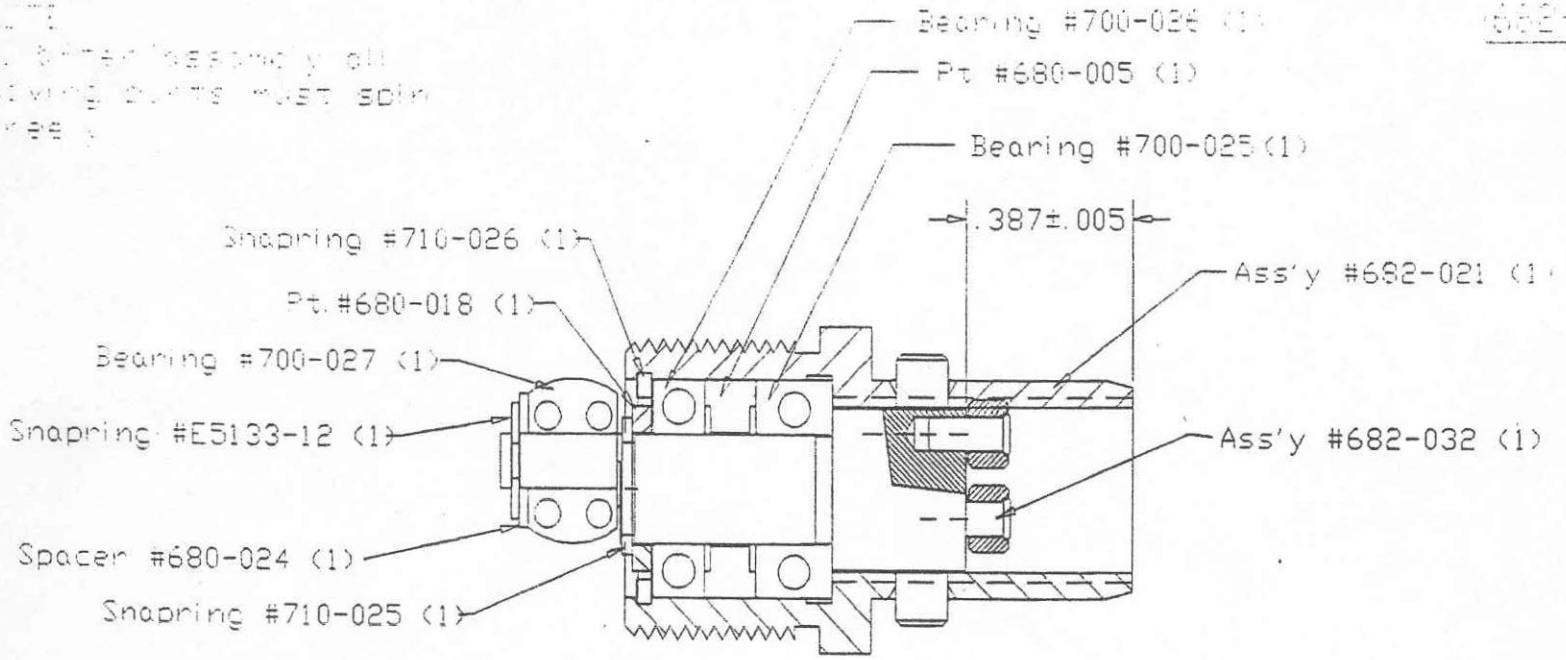
Scale: 1:1 | Approved by | drawn by P. Mueller

Date: 3/29/95

Material: see PL | H.T. or Plating Spec

MASTER METAL ENG. INC. | Drawing Number 682-000

1. Bearings by all driving parts must spin free.



THIS ASSY TAKES THE PLACE OF 680-030 AND CONVERTS THE OLD SAW INTO A POWER RASP

PARTS-LIST

For Ass.y # 682-030 Page of

Final Ass.y # 682-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
680-005	Spacer	1	
680-018	Spacer small	1	
680-024	Spacer	1	
700-026	Bearing 1/2,1/4,3/16w	1	
700-025	Bearing 1/2,1/4,1/8w	1	
700-027	Bearing 3/8,1/8,.218w spherical	1	
710-026	#5133-12 truarc	1	
710-025	#5100-25 truarc	1	
710-028	#N5000-50 truarc	1	
682-021	Adaptor Ass'y	1	
682-032	Input Shaft Ass'y	1	

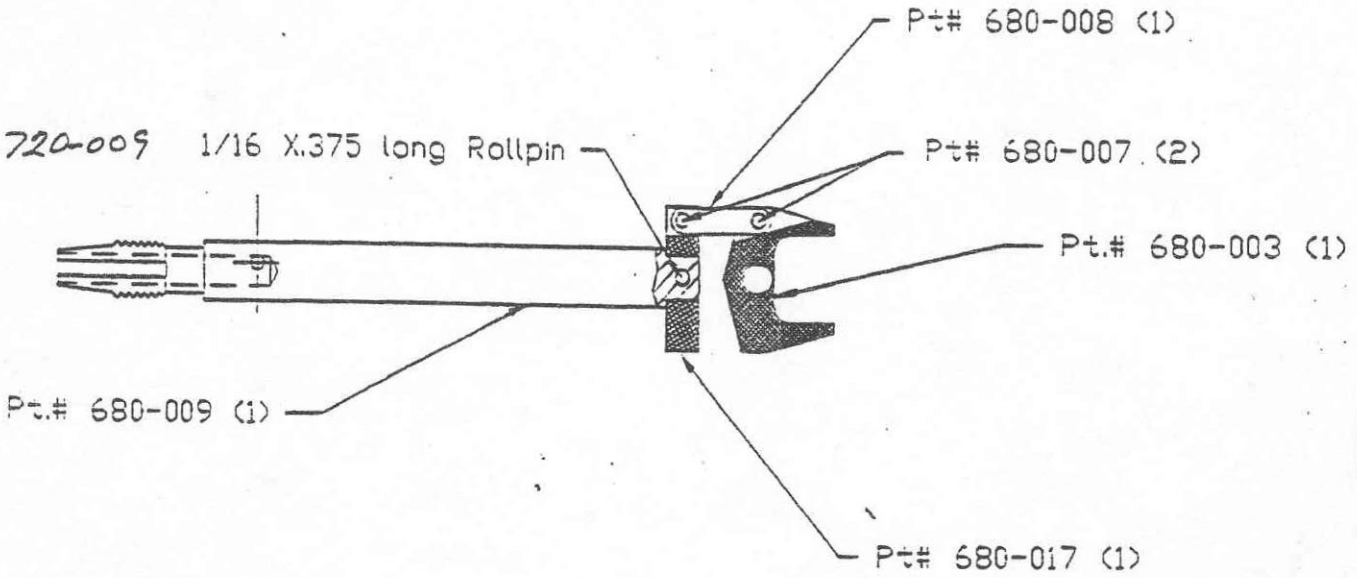
Comments

Next Ass'y: 682-000

TITLE Input Ass.y			
Scale:4:1	Approved by		drawn by R. Mueller
Date:3/28/95			
Material: see PL		H.T. or Plating Spec:	
4 3/28/95 Release			
REV DATE	MASTER METAL ENG. INC		Drawing Number 682-030

NOTE:
After ass,y make sure
rod #680-008 moves freely

680-031



PARTS-LIST

For Ass,y # 680-000 Page of
Final Ass,y # 680-031 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
680-003	Link		
680-007	Axle short	2	
680-008	Rod		
680-009	Harbor		
680-017	Connector		
Rollpin 1/16	1/16 X.375 long		
720-009			

Comment:

PL-031

Next Ass,y: 680-000

TITLE Arbor Ass,y

Scale: Approved by drawn by
Date:
Material: H.T.or Plating Spec.

REV DATE

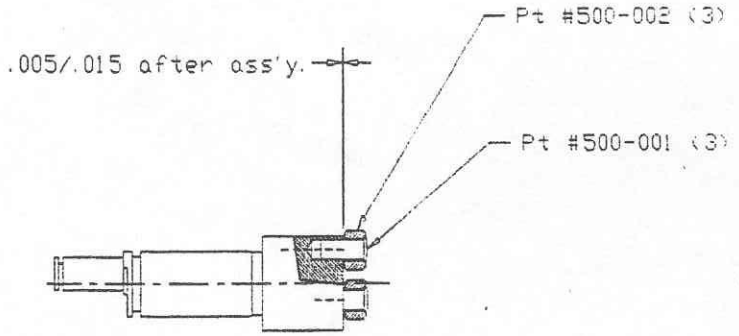
MASTER METAL ENG.INC Drawing Number 680-031

PARTS-LIST

or Ass.y # :682-032 Page of
inal Ass.y #682-000 Date:

rt-Number	Discription	Number of Parts per Assembly	Cost for each Part
2-004	Input Shaft	1	
1-002	Planet Gears	3	
1-001	Gear Axles	3	
iment:			

682-032



Next Ass"y: 682-030

erances (inches) unless otherwise specified
TIONAL ± 1/16 DECIMAL ± .005 ANGULAR = 1°
ER BREAKS .002/.008 THREAD CHAMFERS 1 TO 1 1/2 THDS.
URES ON SAME C LINE = .005 MAX.⊥ 63 MICRO INCH FINISH MAX.
ONCENTRICITY .005 TIR MAX. PEPENDICULARITY .005 IN/IN MAX
ARALLELISM .002 IN/IN MAX. ○ ROUNDNESS .005 MAX
LATNESS .005 IN/IN MAX. — STRAIGHTNESS .001 IN/IN MAX
IMMETRY .006 MAX

DIM. APPLY AFTER ANY PLATING
IF SCALE DRAWING

REV	DATE	
A	3/28/95	RELEASE

TITLE Input Shaft Ass'y

Scale: 2:1 Approved by Drawn by R Mueller

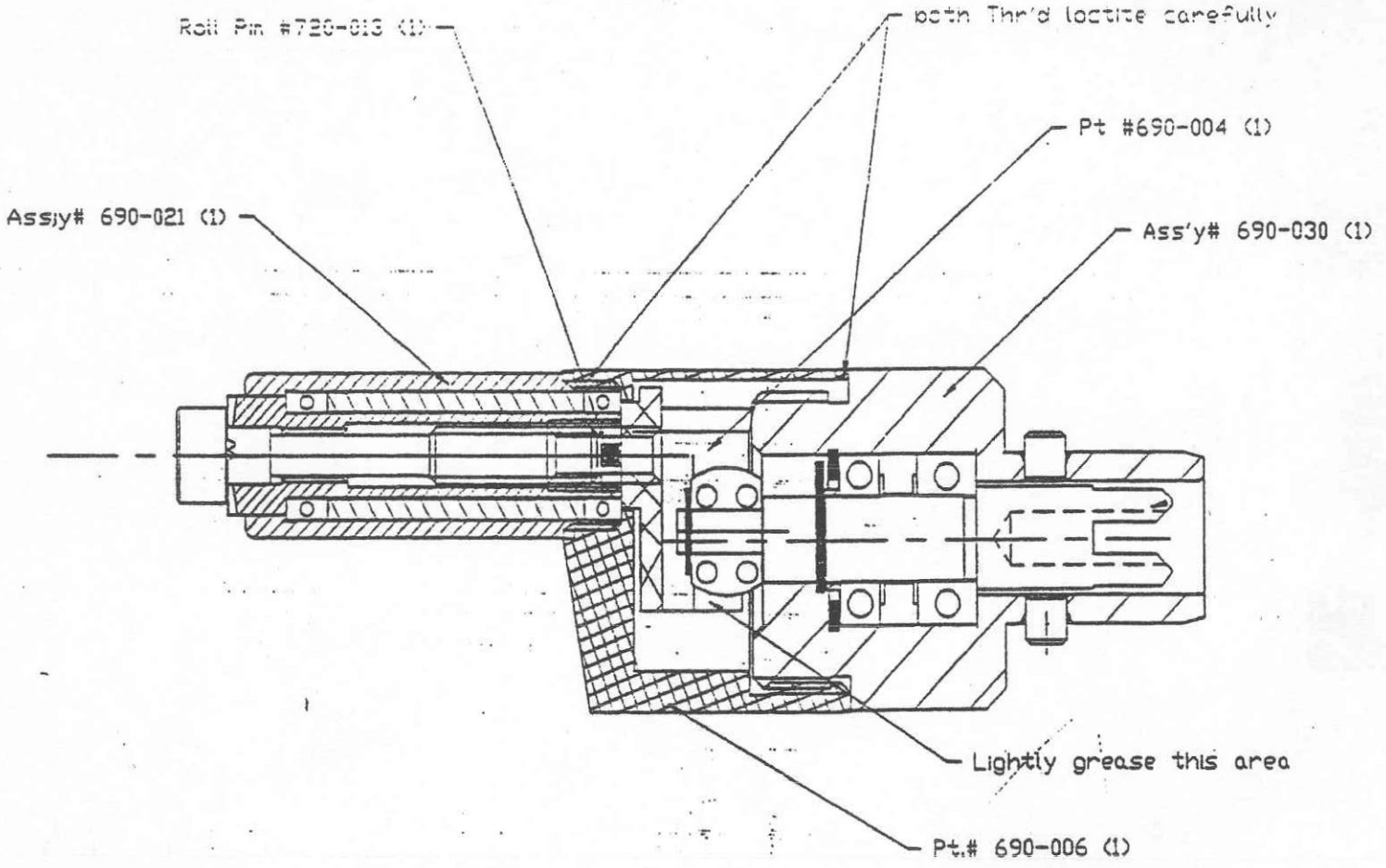
Date: 3/28/95

Material: H.T. or Plating Spec.
see P&L

MATTEE METAL PNG INC

Oscillating Saw Assembly Diagram

VILEX



PARTS-LIST

For Ass,y # 690-000 Page of

Final Ass,y # 690-000 Date:

Part-Number	Description	Number of Parts per assembly	Cost for each Part
690-010	Adaptor		
690-021	Hose Ass'y		
690-030	Motor Ass'y		
720-013	1/16X.250 Roll Pin		
720-000	Grease	A/R	
	Loctite	A/R	
690-004	Rocker		

Comments:

Next Ass'y: Final

TITLE Oscillating Saw

Scale: 4:1 Approved by Drawn by: P.Murphy

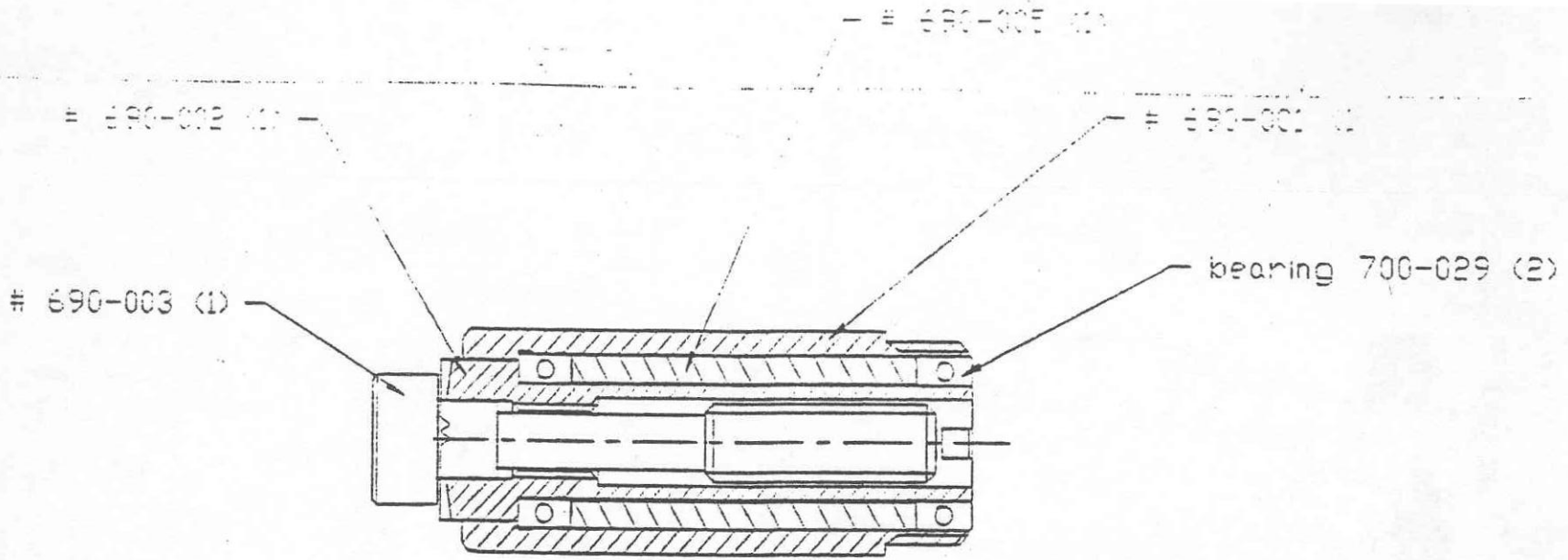
Date: 05-15-98

Material: see P.L. H.T.or Plating Spec:

4 05-15-98 Release

REV DATE

MASTER METAL ENGINEERING



PARTS-LIST

For Ass,y # 690-021 Page of

Final Ass,y # 690-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
690-001	Nose Housing	1	
690-002	Spidle	1	
690-003	Lock Screw	1	
690-005	Spacer	1	
700-029	Bearing 3/8,1/4,1/8"	2	

Comment:

Next Ass'y: 690-022, 691-022

REV.	DATE	
A	04-25-90	Release

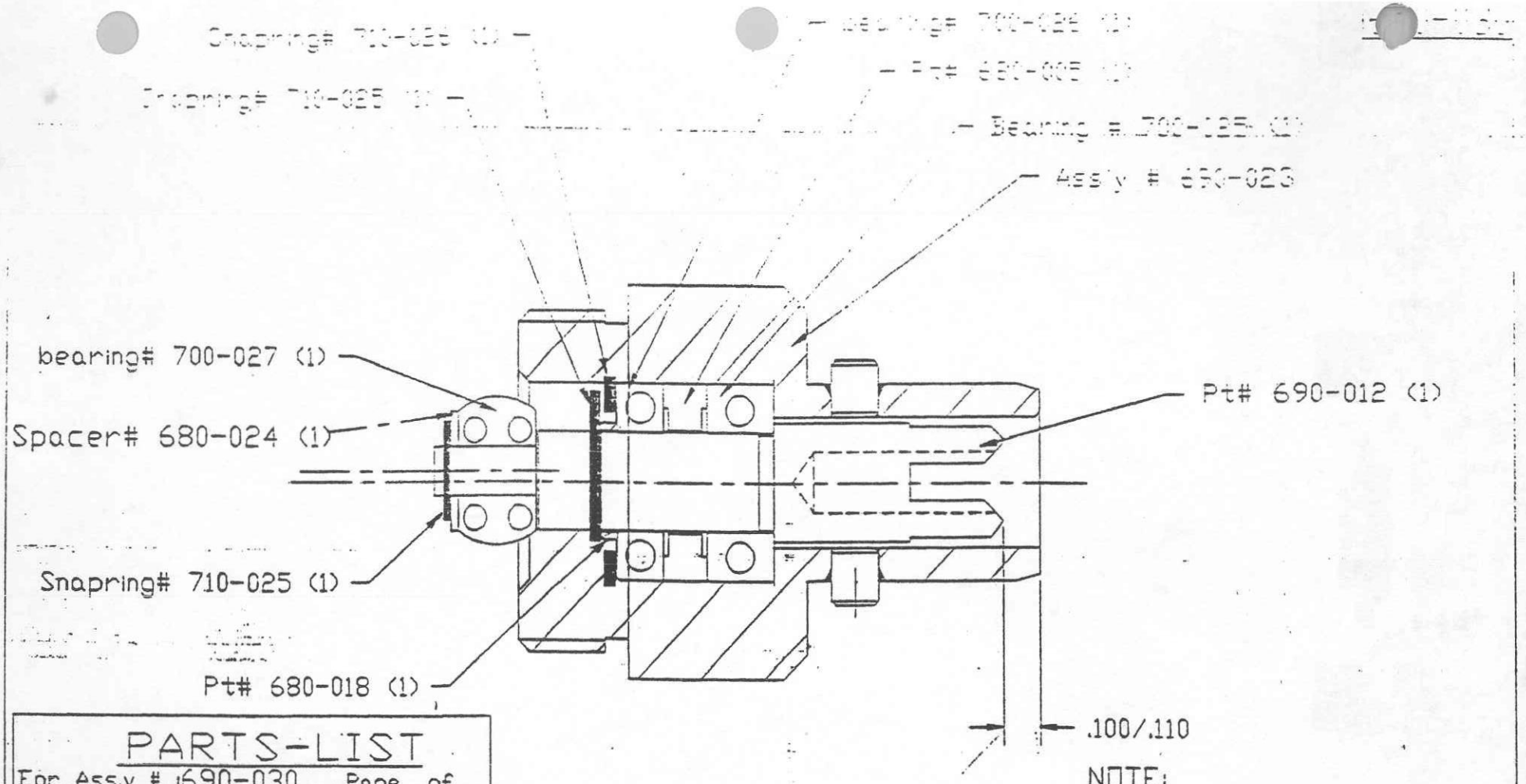
TITLE Nose Ass'y

Scale: 4:1 | Approved by | drawn by R.Mueller

Date 04-25-90

Material: see P.L. | H.T.or Plating Spec.

MASTER METAL ENG.INC | Drawing Number 690-021



NOTE:
(1)after ass'y all moving parts must spin freely

PARTS-LIST

For Ass,y # :690-030 Page of

Final Ass,y # 690-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
690-012	Input-Shaft	1	
680-005	Spacer	1	
680-018	small spacer	1	
690-023	Adaptor Ass'y	1	
680-024	Spacer	1	
700-025	bearing 1/2,1/4,2/16 w	1	
700-026	bearing 1/2,1/4,3/8 w	1	
700-027	bearing 3/8,1/8,.218 w	spherical 1	
710-024	#5133-12 truarc	1	
710-025	#5100-25 truarc	1	
710-026	#N5000 50 truarc	1	

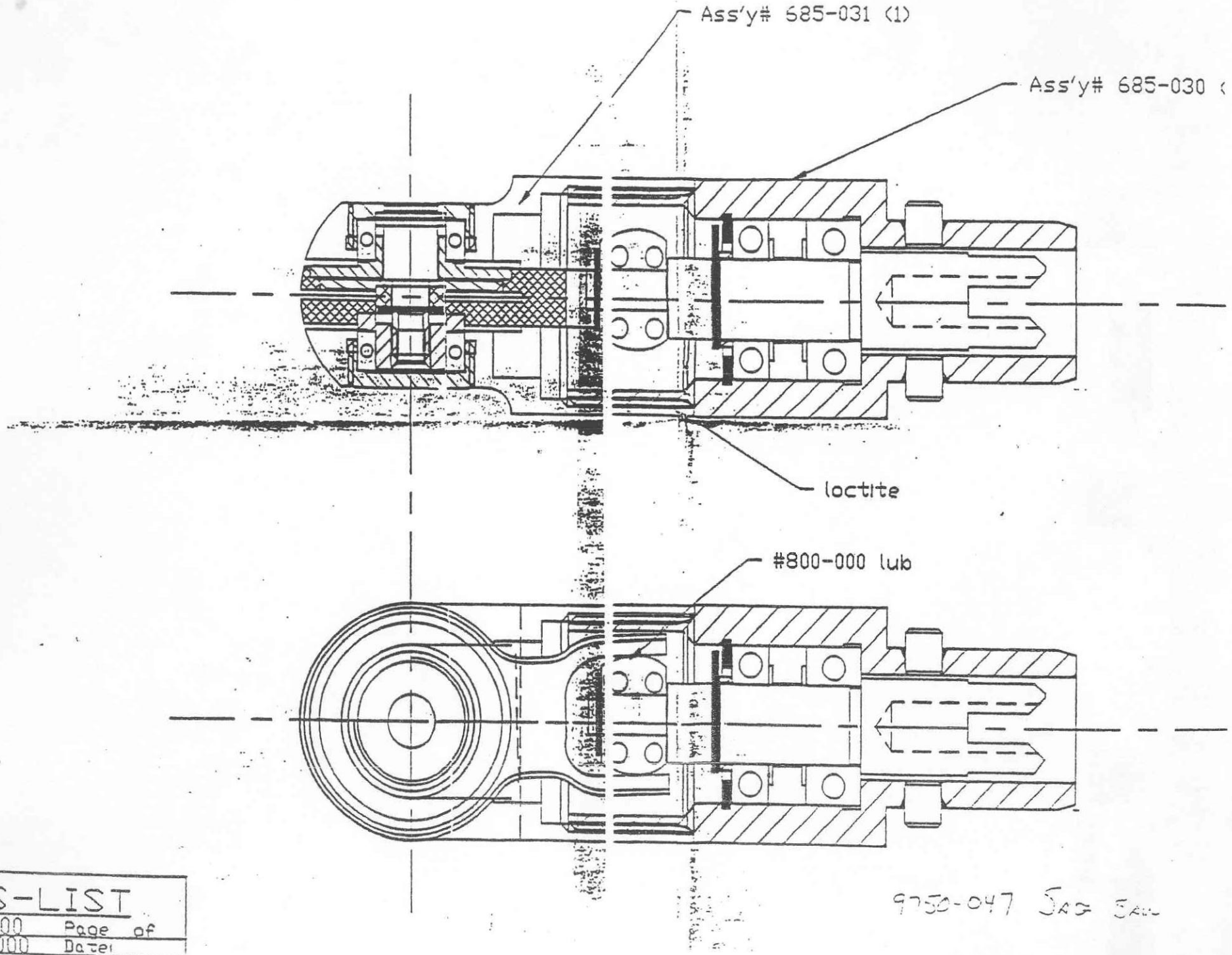
Comment:

next Ass'y: 690-000, 691-000

REV	DATE	TITLE Input Ass'y		
		Scale:4:1	Approved by	drawn by
		Date:4-02-09		
		Material: see P!	H.T.or Plating Spec.	
		MASTER METAL ENG.INC		Drawing Number 690-030

Sagittal Saw Assembly Diagram

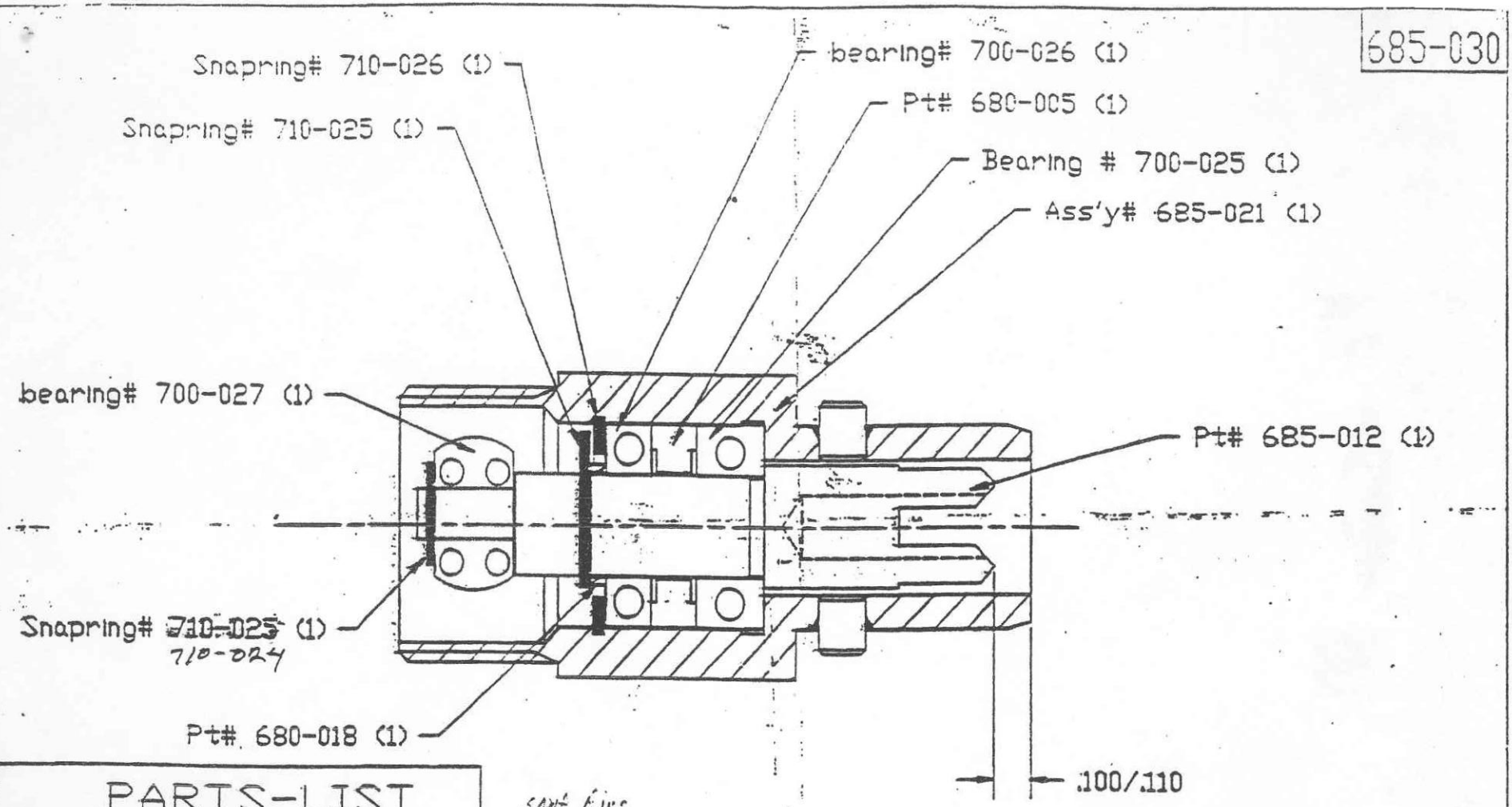
VILEX



S-LIST
-000 Page of
-000 Date:

9750-047 SAS 3AU

685-030



NOTE:
(1)after ass'y all moving parts must spin freely

PARTS-LIST

For Ass,y # 685-030 Page of

Final Ass,y # 685-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
685-012	Input shaft	1	
680-005	Spacer	1	
680-018	small spacer	1	
685-021	Adaptor Ass'y	1	
680-024	SPACER	1	
700-025	bearing 1/2 1/4 5/16 w	1	
700-026	bearing 1/2 1/4 1/8 w	1	
700-027	bearing 3/8 1/8 .218 w	spherical 1	
710-024	#5133-12 truarc	1	
710-025	#5100-25 truarc	1	
710-026	#N5000 50 truarc	1	

Comments

Snap Ring 710-C50 not Listed.

Snap Ring 710-C19 Not Listed

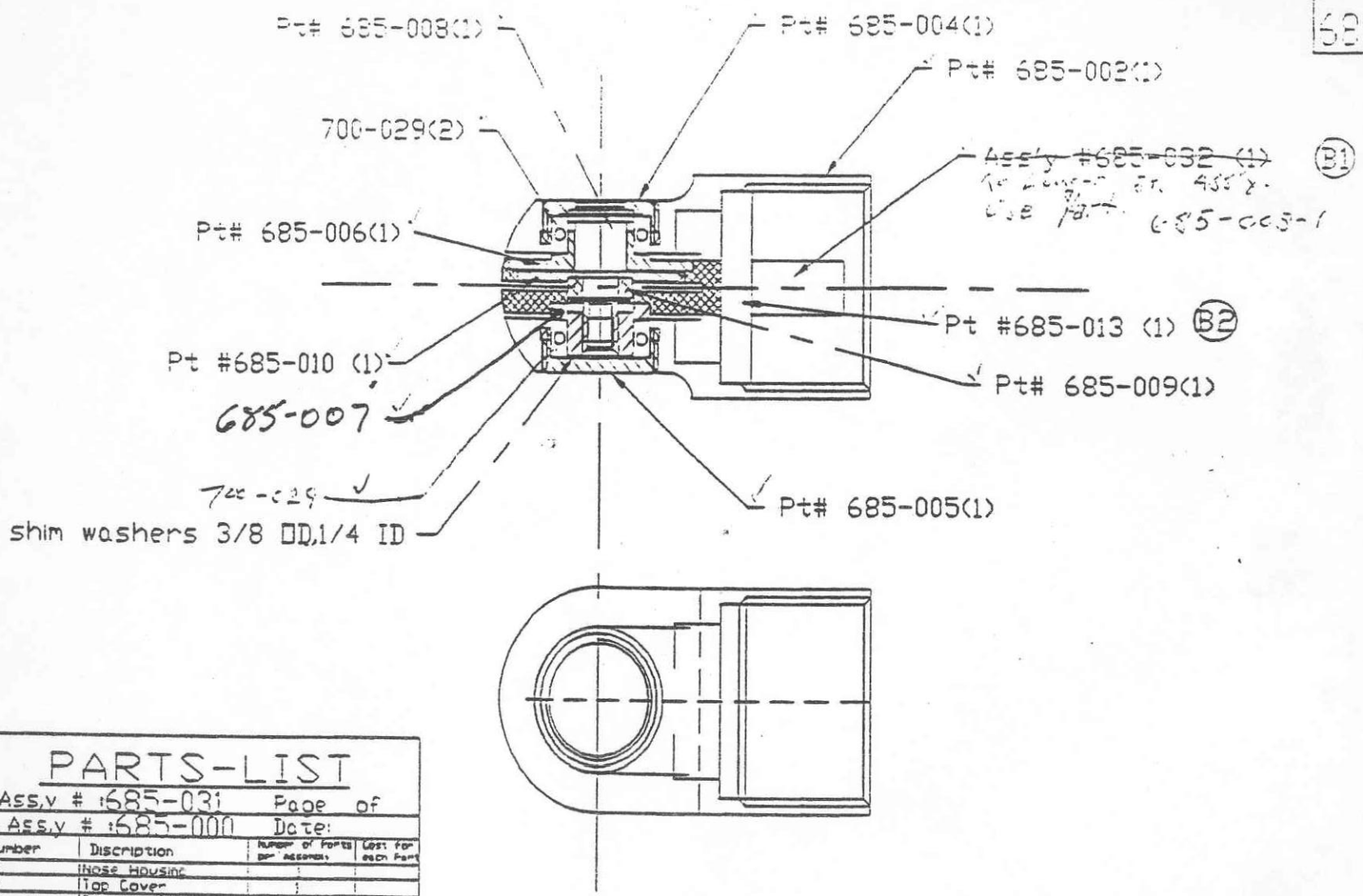
Next Ass'y: 685-000

REV.	DATE	

TITLE Input Ass'y

Scale:4:1	Approved by	drawn by
Date:04-02-09		
Material: see PI	H.T.or Plating Spec.	
MASTER METAL ENG.INC		Drawing Number 685-030

685-031



PARTS-LIST

For Ass,y # :685-031 Page of

Final Ass,y # :685-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
685-002	Nose Housing	1	
685-004	Top Cover	1	
685-005	Bottom Cover	1	
685-006	Top Pivot	1	
685-007	Bottom Pivot	1	
685-008	Lock Screw	1	
685-009	Spacer	1	
685-010	Plate	1	
685-013	Seal	1	
685-032	Lock Ass'y	1	
700-029	Bearing 3/8,1/4,1/8	2	
Shim Washers	3/8 OD 1/4 ID	4/8	

Comment:

Next Ass'y: 685-000

TITLE Head Ass'y

Scale: 3:1 | Approved by: | Drawn by: R.Mueller

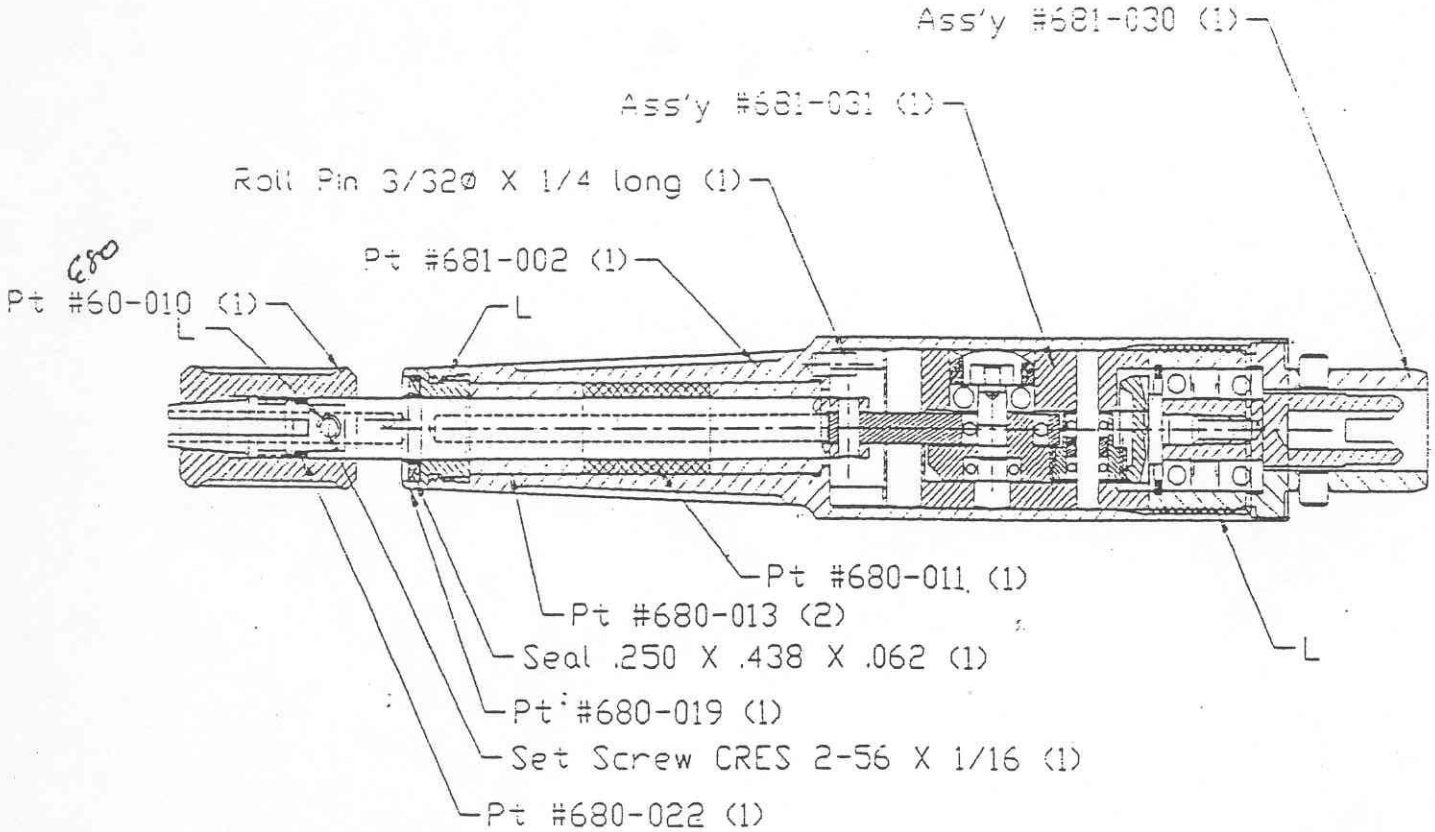
Date: 11-15-82

Material: See Parts List | H.T.or Plating Spec.

Drawing Number

Reciprocating Saw Assembly Diagram

VILEX



PARTS-LIST

For Ass,v # 681-000 Page of

Final Ass,v # 681-000 Date:

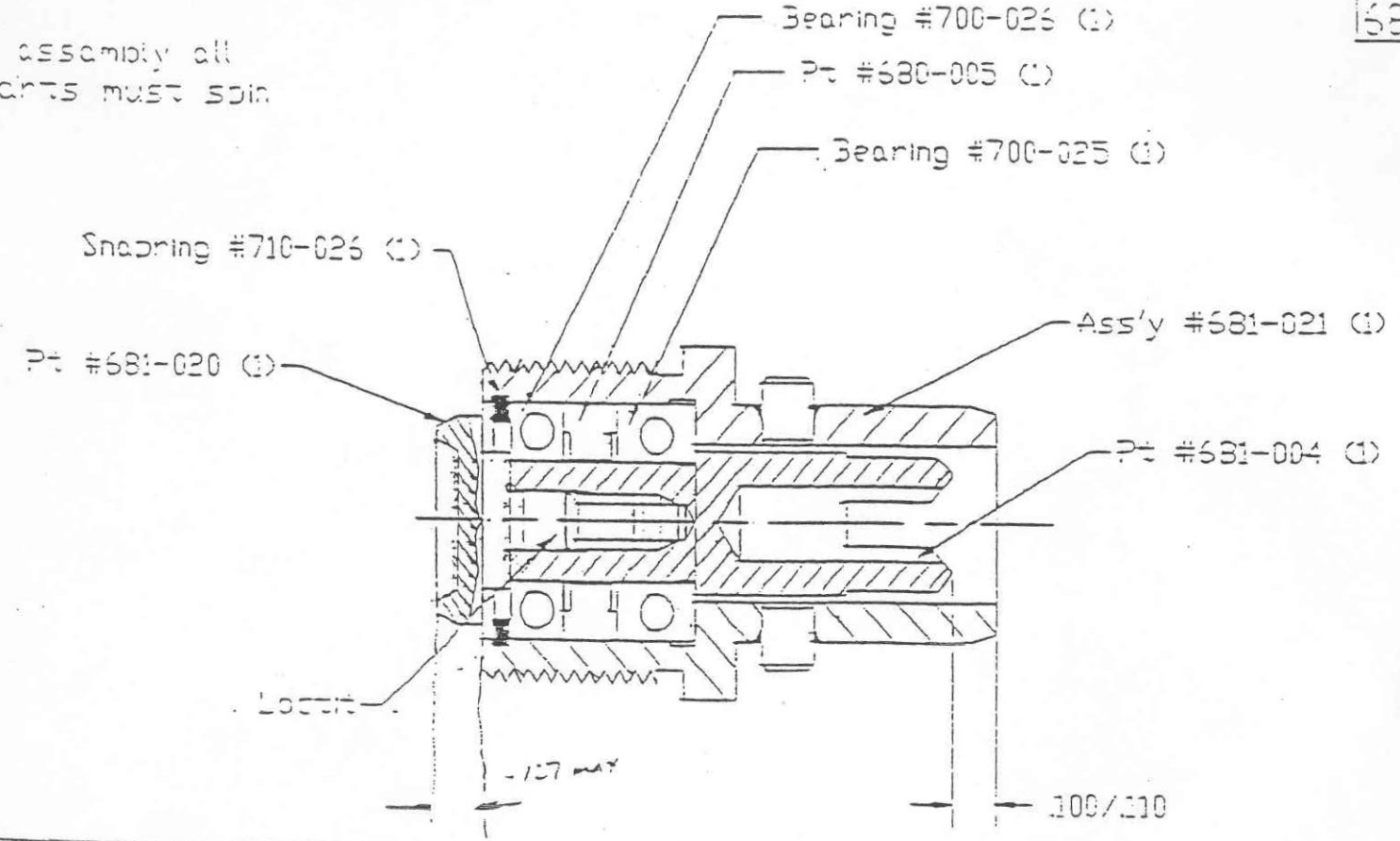
Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
681-002 ✓	Front Housing		
681-030 ✓	Input Ass'v		
681-031 ✓	Arbor Ass'v		
680-010 ✓	Nut		
680-011 ✓	Front Spacer		
680-013 ✓	Sleeve Bearing	2	
680-016	Sleeve		
680-019	Cap		
680-022	Split Ring		
800-000	Lub	A/P	
	Loctite #242	A/P	
	2-56X1/16 set screw	1	✓
Roll Pin	OPEN 3/32 ø 1/4	1	✓
Seal	Seal Lpt .250 I .438	1	✓
Comment:	X .062 Teflon		

L=loctite these areas
use thread-Loc #242

Next Ass'v: final

		TITLE Reciprocating Saw Ass'v	
		Scale:	Approved by: Drawn by: E Mugerian
		Date:	
		Material: See DL	Finish Plating Spec.
A	Added Interface	MASTER METAL ENG INC	Drawing Number 681-000
REV	DATE		

NOTE:
(1)after assembly all moving parts must spin freely



681-030

PARTS-LIST

For Assy = 681-030 Page of

Final Assy = 681-000 Date:

Item Number	Description	Number of Assembly Required per Item
681-020	Input Shaft	1
681-021	Input Face Gear	1
681-004	Adapter Assy	1
681-001	Spacer	1
700-025	Bearing (R14/6VA)	1
700-026	Bearing (R8/6VA)	1
710-026	Internal Snapring	1
	Loctit 242	AR

Comment

P_-030

Next Ass'y: 681-000

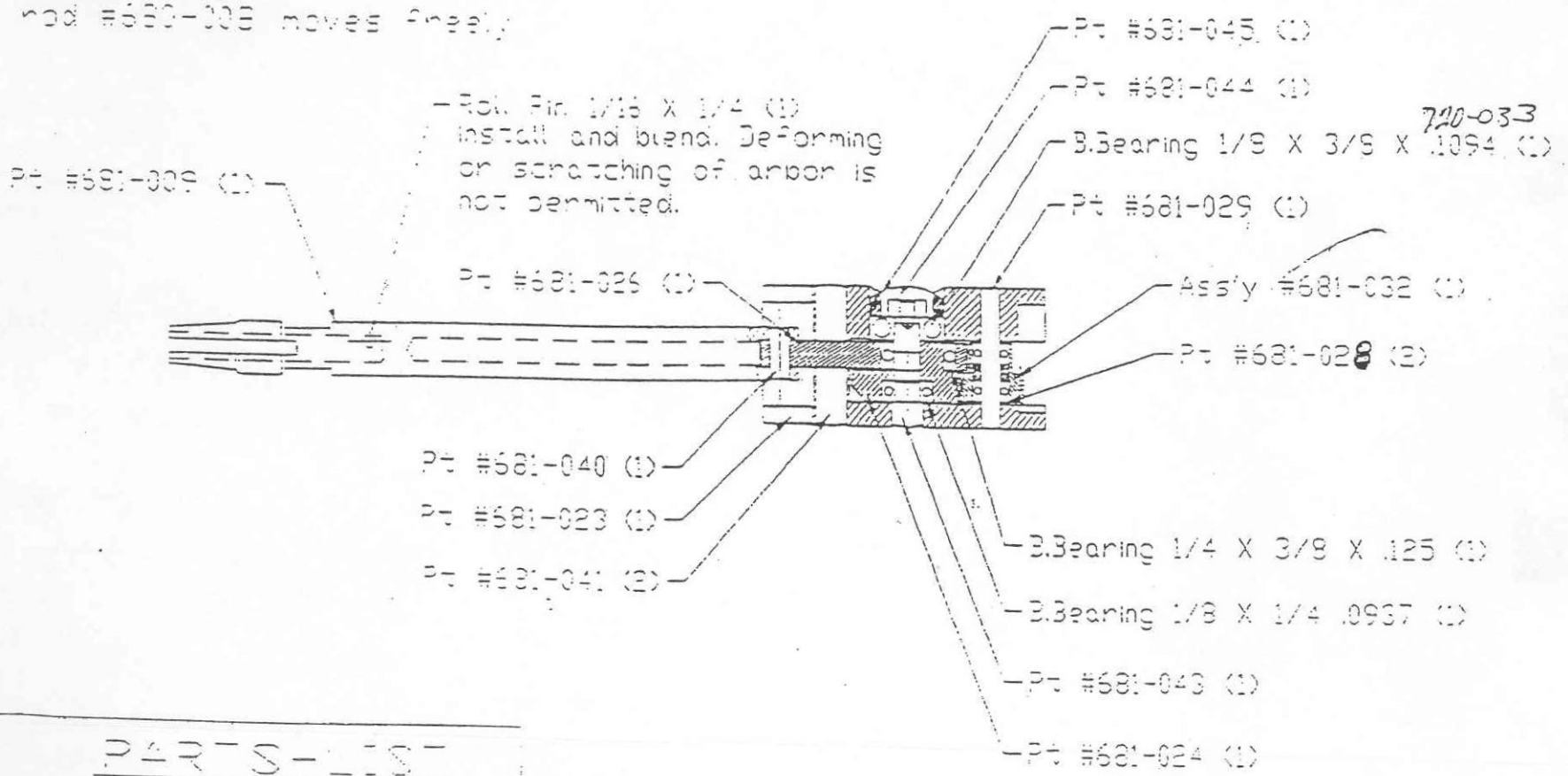
TITLE Input Assy

Scale:	Approved by	Drawn by
Date: 12-16-99		E. Mujal Jr.
Material: See P_	Finish Plating Spec	

MASTER METAL ENGINE Drawing Number 681-030

681-031

NOTE
After assy make sure
rod #680-008 moves freely



PARTS-LIST

Item number	Description	

Next Assy # 681-032

TITLE Arbor Assy

Approved by

Drawn by

Order Rating Date

Standard Rotary/Drill Assembly Diagram

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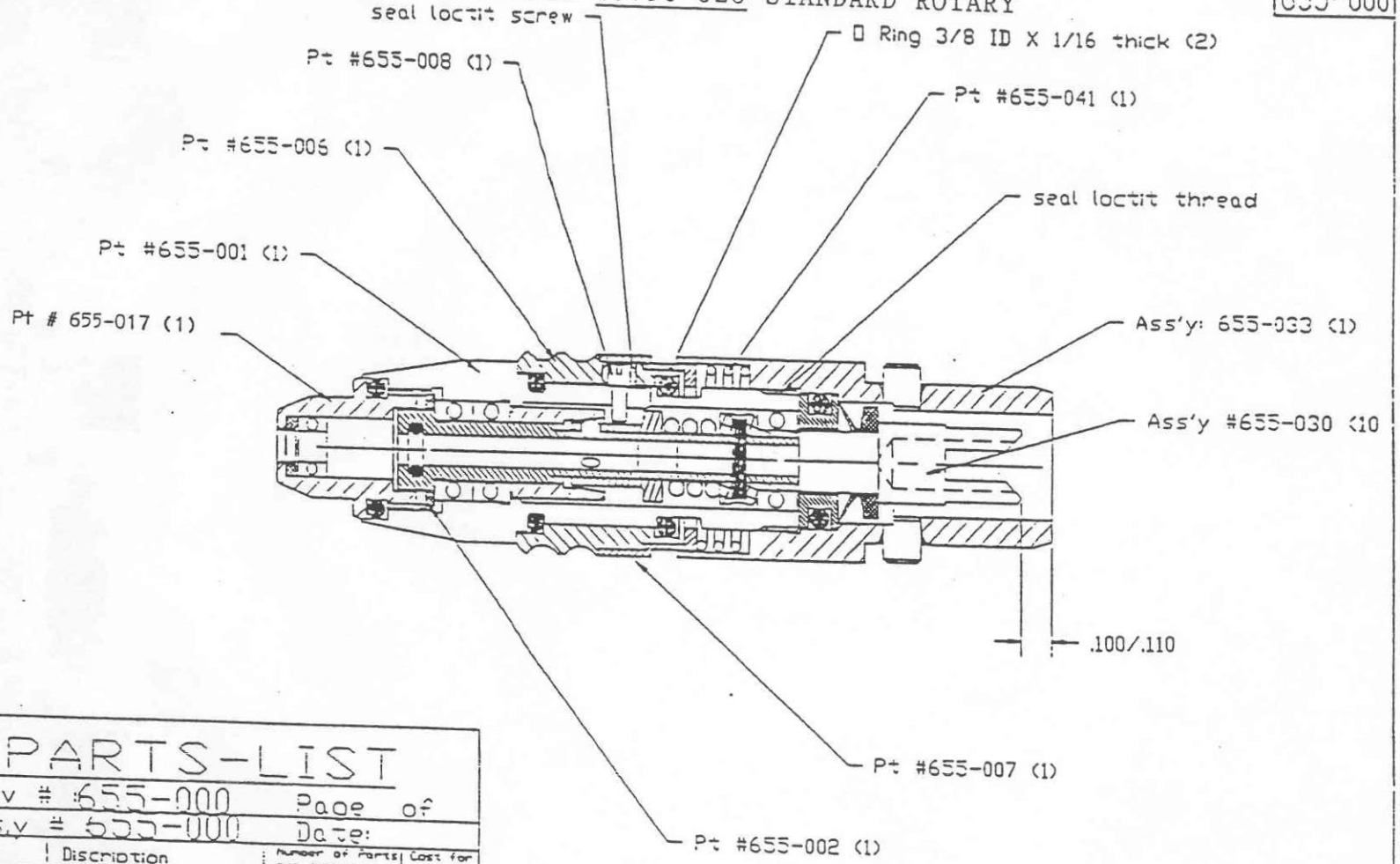
McMINNVILLE, TN 37110

PRODUCT NUMBER #9750-020 STANDARD ROTARY

655-000



PARTS-LIST

For Ass.y # 655-000 Page of

Final Ass.y # 655-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
655-001	Main Body	1	
655-002	Retainer Nut	1	
655-006	Collar green	1	
655-007	Cover	1	
655-008	Pin-Screw	1	
655-041	Spring	1	
655-030	Spindle Ass'y	1	
655-017	Sm Burr Guard Ass.y	1	
655-033	Adaptor Ass'y	1	
740-001	O Ring 3/8 ID 1/16	2	
	Soft loctit	A/R	

Next Ass'y: 655-000

TITLE STD. Rotary Ass'y

Scale: 4:1 | Approved by | Drawn by E.Mueller

Material: See P.L. | H.T.or Plating Spec.

MASTER METAL ENG.INC

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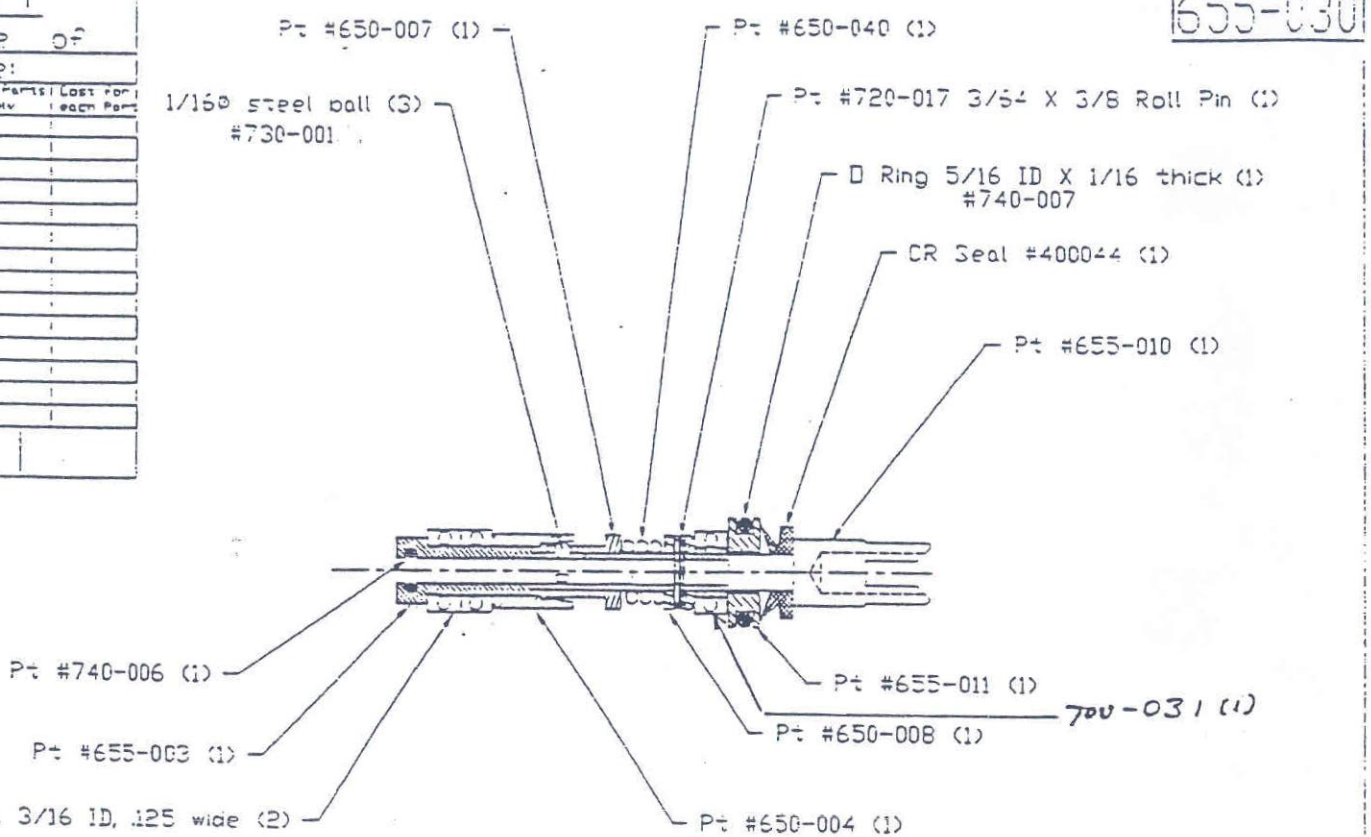
PARTS-LIST

For Ass.y # 655-030 Page of

Final Ass.y # 655-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
655-003	Spindle	1	
655-010	Input-Driver	1	
655-011	Seal Plate	1	
650-004	Closer	1	
650-007	Cage	1	
650-008	Bearing Support	1	
650-040	Spring	1	
700-031	Ball Bearing	3	
730-001	1/16 steel ball	3	
	CR Seal #400044	1	
740-006	O Ring .094 ID .8mm thick	1	
740-007	O Ring	1	
720-017	3/640 X 3/8 Roll Pin	1	
Comment:			

655-030



Next Ass'y: 655-000

REV	DATE	
3	10-29-92	partslist updated
4	06-21-91	Reissue

TITLE Spindle Ass'y std.

Scale: 2:1 | Approved by | Drawn by IK Mueller

Date: 06-19-91

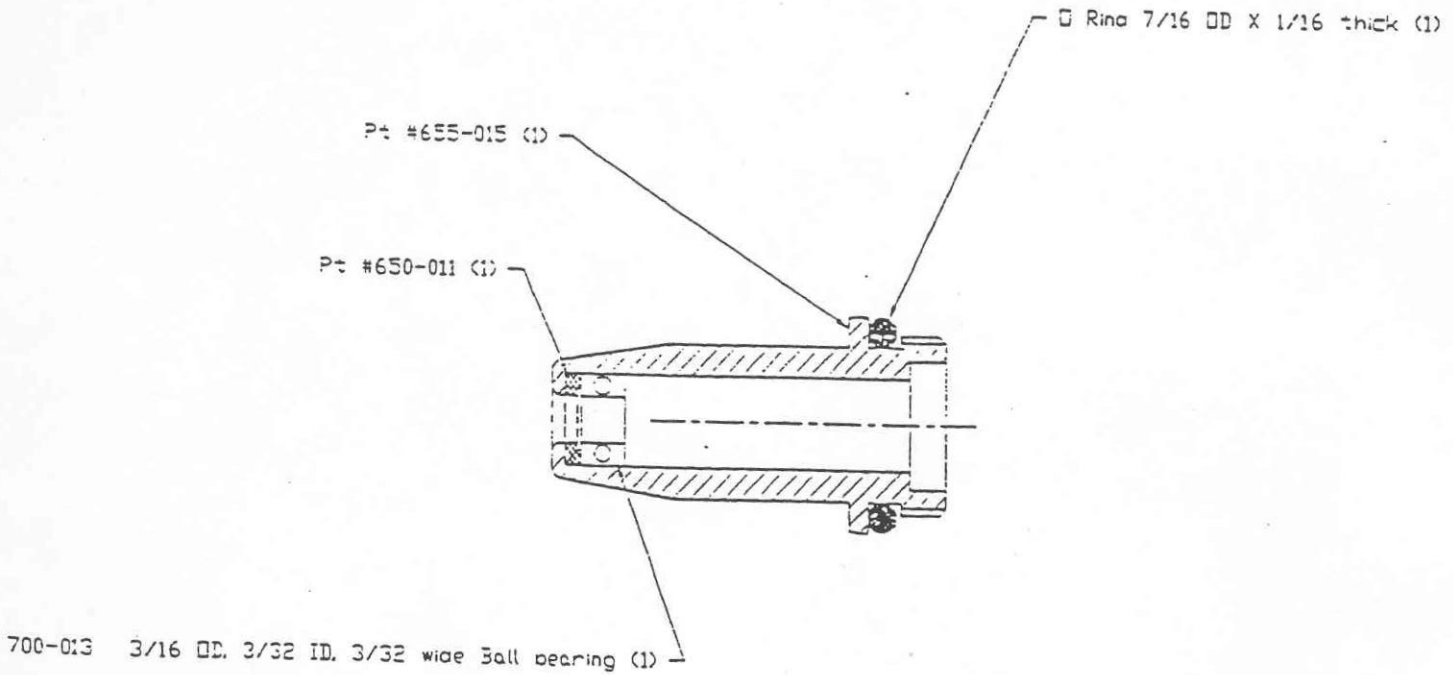
Material: See P.L. | H.T. or Plating Spec.

MASTER METAL ENG. INC | Drawing Number 655-030

P. O. BO[illegible]08
216 EAST MAIN ST.
McMINNVILLE, TN 37110

PT# 9750-121

655-045



PARTS-LIST

For Ass.y # 655-045 Page of

Final Ass.y #see next Ass'y Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
655-015	Front Nose 70mm		
650-011	Seal		
700-013	Ball Bearing		
740-009	O ring	1	

Comment:

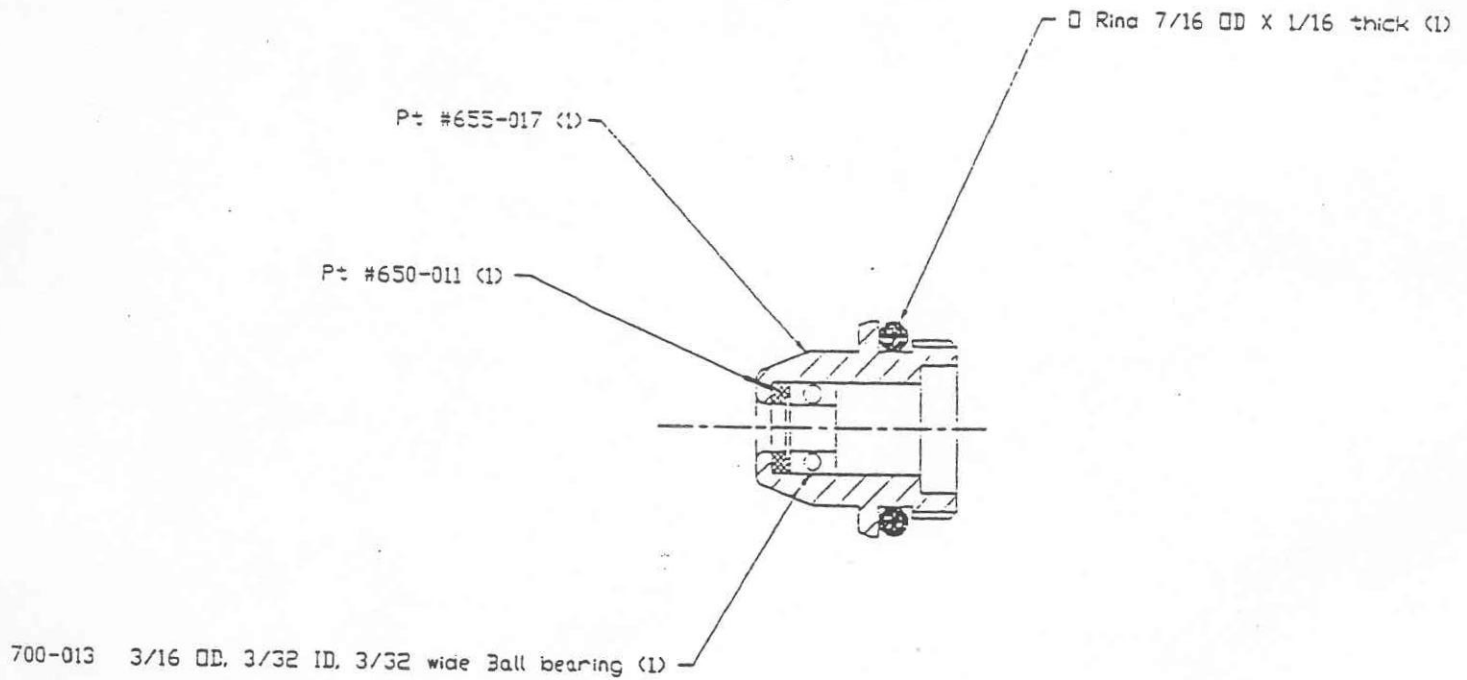
Next Ass'y: accessory 655-000, 656-000, 657-000

		TITLE	Med. Burr Guard Ass'y
		Scale:4:1	Approved by
		Date:04-11-91	Drawn by K.Mueller
		Material: see P.L.	H.T.or Plating Spec.
Δ	04-11-91	Release	
REV	DATE	MASTER METAL ENG.INC	Drawing Number 655-045

P. O. [illegible]308
216 EAST MAIN ST.
McMINNVILLE, TN 37110

PT # 9750-120-A

655-047



PARTS-LIST

For Ass.y # 655-047 Page of

Final Ass.y #see next Ass'y Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
655-017	Front Nose	1	
650-011	Seal	1	
700-013	Ball Bearing	1	
740-009	O ring	1	

Comment:

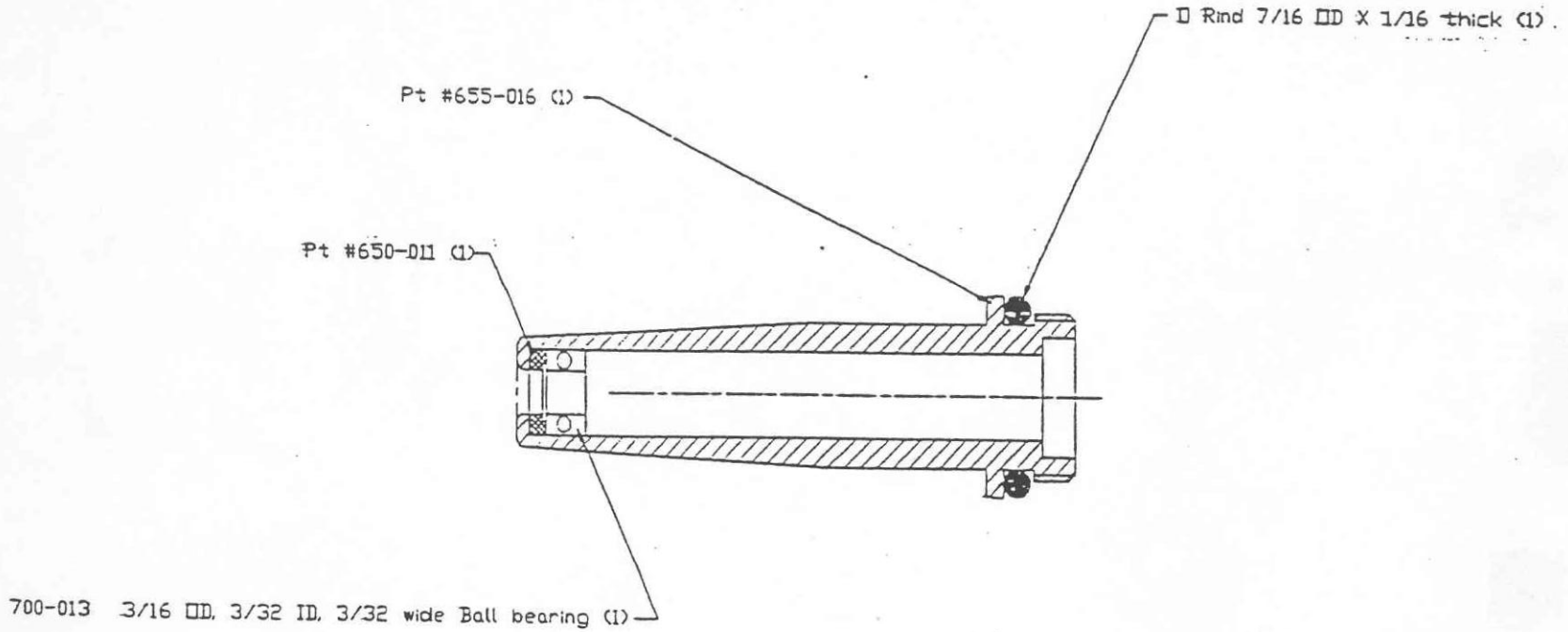
Next Ass'y: 655-000. 656-000

	TITLE Sm Burr Guard Ass'Y		
	Scale:4:1	Approved by	Drawn by R.Mueller
	Date:11/10/93		
	Material: see P.L.	H.T.or Plating Spec.	
A	11/10/93 Release	MASTER METAL ENG.INC	Drawng Number 655-047

P. O. B[illegible]308
216 EAST MAIN ST.
McMINNVILLE, TN 37110

PT# 9750-122

655-046



PARTS-LIST

For Ass.y # 655-046 Page of

Final Ass.y #see next Ass'y Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
655-016	Front Nose 95mm	1	
650-011	Seal	1	
700-013	Ball Bearing	1	
740-009	O ring	1	

Comment:

Next Ass'v: accessory 655-000, 656-000, 657-000

REV.	DATE	
A	04-11-91	Release

TITLE Lg. Burr Guard Ass.y

Scale:4:1 | Approved by | drawn by R.Mueller

Date 04-11-91

Material: see P.L. | H.T.or Plating Spec.

MASTER METAL ENG.INC | Drawing Number 655-046

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Phone (931) 474-7550
Fax (931) 474-7551
Orders (800) 521-5002

McMinnville Division
522A Sparta Street
McMinnville, TN 37110 USA
email: vilex@infoave.net

Repair Parts Support Kits

9750-020 & 021 Standard Rotary Handpiece(020) & AO Rotary Handpiece (021)

Kit Number 9750-020-00

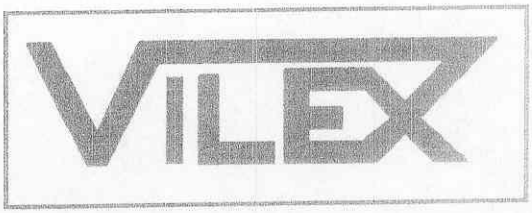
Part Number	Quantity	Description
655-008	1 Ea	Pin Screw
700-031	3 Ea	Bearings
740-001	2 Ea	"O" Ring
740-006	1 Ea	"O" Ring
740-007	1 Ea	"O" Ring

Note: Special Tools for Rotary Handpiece Disassembly

T655-002	1 Ea	Lock nut spanner wrench
T655-003	1 Ea	Adaptor assembly wrench

Tools are not included with the 9750-020-00 kit

AO Rotary/Drill Assembly Diagram



UAIVI
P. O. BOX 308
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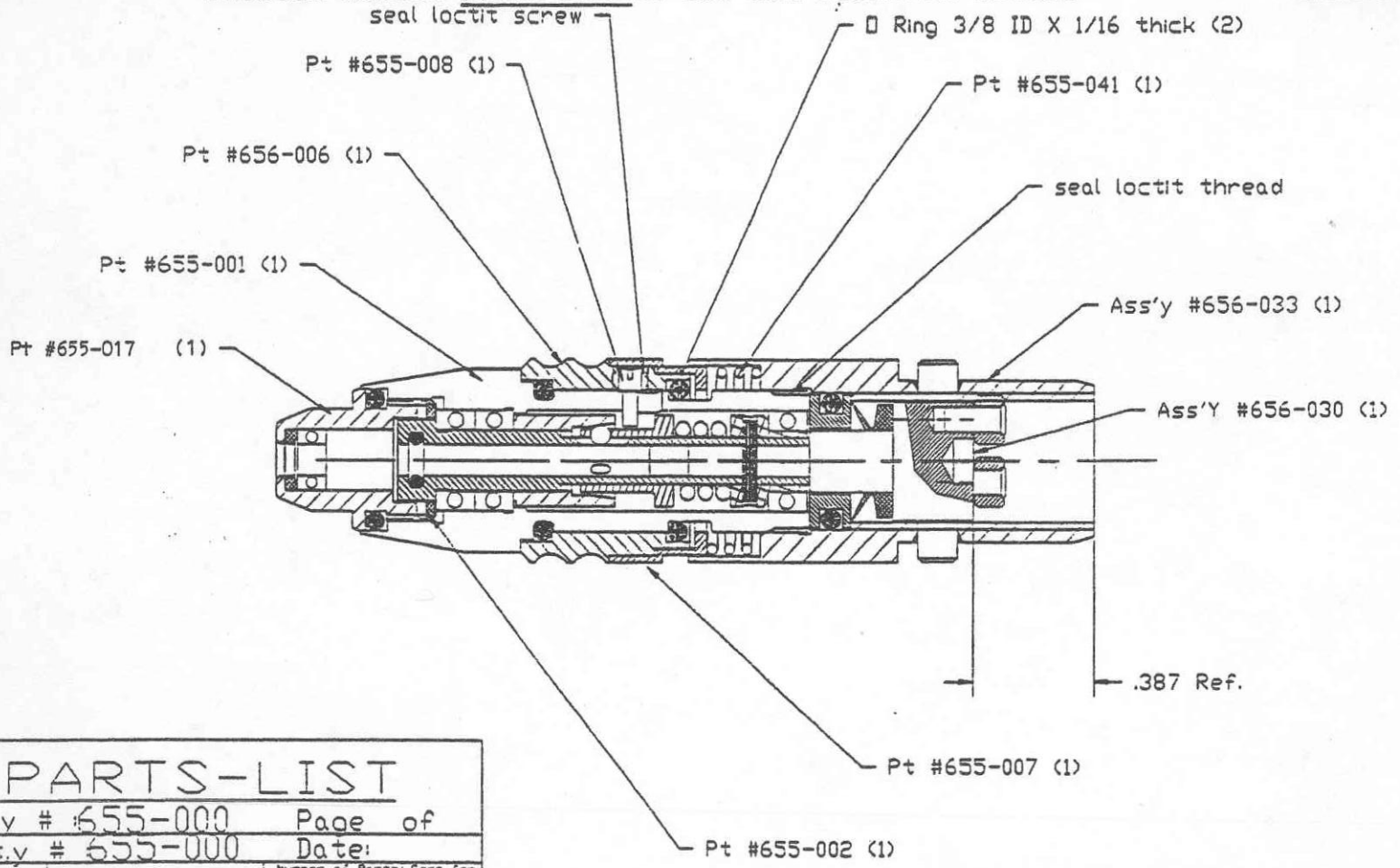
McMINNVILLE, TN 37110

656-000

PRODUCT NUMBER #9750-021 AO LOW RPM FIXATION ROTARY



PARTS-LIST

For Ass.y # 655-000 Page of
Final Ass.y # 655-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
655-001	Main Body	1	
655-002	Retainer Nut	1	
656-006	Collar blue	1	
655-007	Cover	1	
655-008	Pin-Screw	1	
655-041	Spring	1	
656-030	Spindle Ass'y	1	
655-017	Sm Burr Guard Ass'y		
656-033	Adaptor Ass'y HT	1	
740-001	O Ring 3/8 ID 1/16	2	
	soft loctit	A/R	

Comment:

Next Ass'y: Final

TITLE	H.T. Rotary Ass'y
Scale: 4:1	Approved by
Date: 6-21-91	drawn by R.Mueller
Material: see P.L.	H.T.or Plating Spec.
A 06-21-91 Release	Drawing Number

PARTS-LIST

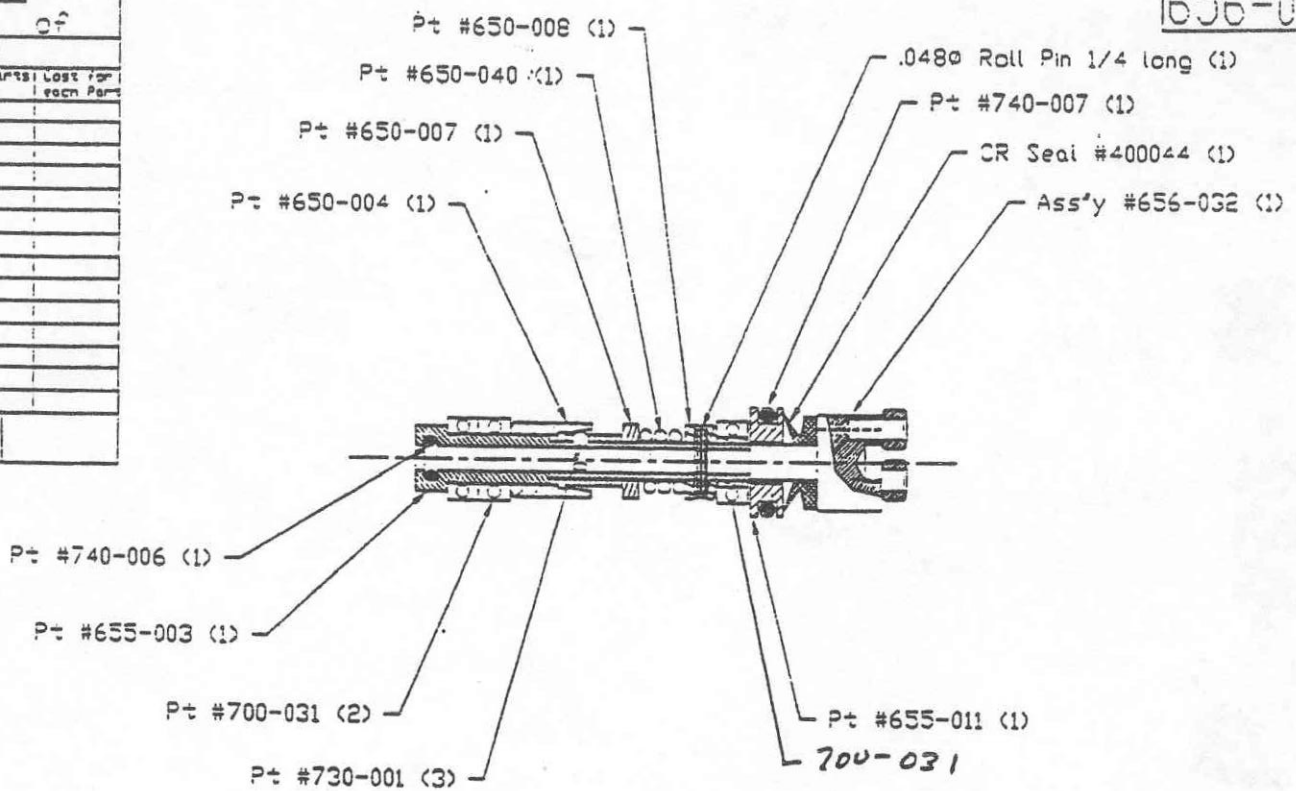
For Ass'y # 656-030 Page of

Final Ass'y # 656-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
655-003	Spindle	1	
655-011	Seal Plate	1	
650-004	Closer	1	
650-007	Cage	1	
650-008	Bearing Support	1	
650-040	Spring	1	
656-032	Planet Input Ass'y	1	
700-031	Ball Bearings	3	
730-001	1/16 Steel Balls	3	
740-008	3/64@ X 3/8 Roll Pin	1	
740-017	.048@ Roll Pin 1/4 long	1	
740-006	ID Ring .094 ID 9mm thick	1	
740-007	ID Ring	1	

Comments:

656-030



Next Ass'y: 656-000

REV.	DATE	
B	10-29-92	Partslist updated
A	06-91-91	Release

TITLE Spindle Ass'y H.T.

Scale: 1:1 | Approved by | Drawn by R Mueller

Date: 06-19-91

Material: See P.L. | H.T. or Plating Spec.

MASTER METAL ENG. INC | Drawing Number 656-030

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[illegible] TN 37110

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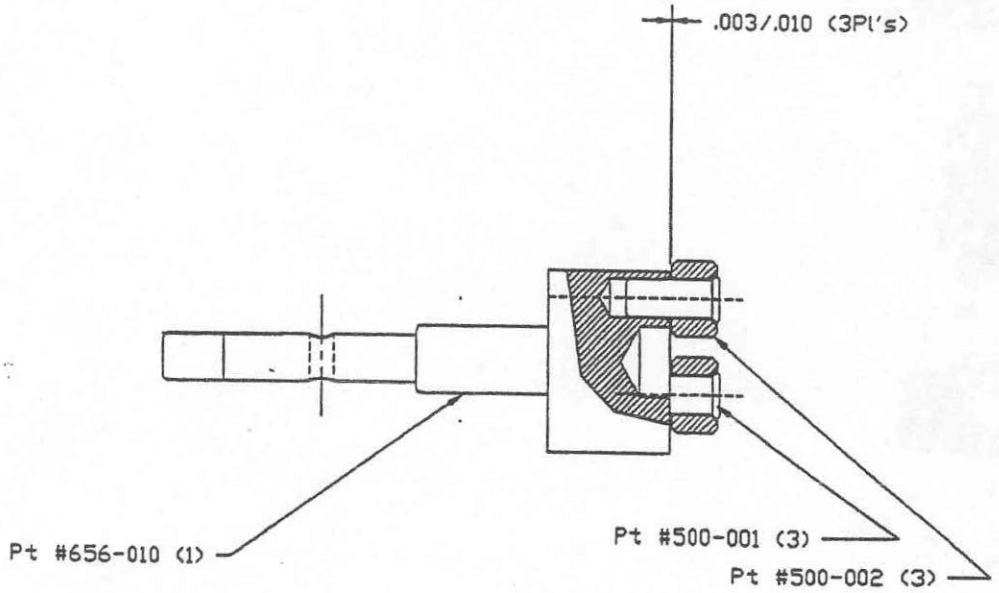
McMINNVILLE, TN 37110

PARTS-LIST

For Ass,y # :656-032 Page of
Final Ass,y # 656-000 Date:

Part-Number	Discription	Number of Parts per Assembly	Cost for each Part
656-010	Input Driver	1	
500-001	Axles	3	
500-002	Planet Gears	3	
Comment:			

656-032



Next Ass'y: 656-030

REV.	DATE	
A	06-26-91	Release

TITLE Planet Input Ass'y

Scale:4:1 | Approved by | drawn by R.Mueller
Date:06-26-91
Material: see P.L. | H.T.or Plating Spec.

MASTER METAL ENG.INC | Drawing Number 656-032

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McMinnville Division
522A Sparta Street
McMinnville, TN 37110 USA
email: vilex@infoave.net

Repair Parts Support Kits

9750-020 & 021 Standard Rotary Handpiece(020) & AO Rotary Handpiece (021)

Kit Number 9750-020-00

Part Number	Quantity	Description
655-008	1 Ea	Pin Screw
700-031	3 Ea	Bearings
740-001	2 Ea	"O" Ring
740-006	1 Ea	"O" Ring
740-007	1 Ea	"O" Ring

Note: Special Tools for Rotary Handpiece Disassembly

T655-002	1 Ea	Lock nut spanner wrench
T655-003	1 Ea	Adaptor assembly wrench

Tools are not included with the 9750-020-00 kit

Precautions, Cleaning, and Sterilization

The following are suggestions applicable to all Vilex Power Equipment

Precautions:

- Always follow proper sterilization procedures before operating any device in a sterile field
- Do not attempt to open or disassemble any motor, console box, or hand piece; doing so will void your warranty
- Do not use the equipment near a pacemaker or high-powered surgical unit to avoid electronic interference
- Do not operate at voltages higher than recommended
- Do not attempt to replace console fuses with the power cable connected
- Do not drop any piece of equipment
- Do not use force to connect or disconnect the motor cable, power cord or foot switch cable; grip the connector NOT the cord to disconnect
- Do not crimp, cut or pinch any cable or power cord
- Do not autoclave the console or foot switches
- Do not connect a hand piece while the motor is running

NOTE: the Vilex motor plugs into the console (box) via a motor cord. Hand pieces plug into the motor. Vilex refers to hand pieces as any saw (sagittal, reciprocating, or oscillating), any rotary/drill, or wire driver which plugs into/attaches to the motor.

Cleaning:

Never immerse Vilex Power Equipment in any liquid to clean, sterilize or cool; never ultrasonic clean
All instruments should be cleaned prior to sterilization

1. Always disconnect the hand piece from the motor before cleaning
2. Scrub the hand piece or motor with mild soapy water using a soft nylon brush or cloth; avoid letting soapy water enter the end of the hand piece which connects with the motor
3. Rinse briefly under running tap water
4. Dry thoroughly with a soft cloth
5. The motor and hand piece are now ready for sterilization

Sterilization Guidelines:

- Follow AMMI guidelines for sterilizing power surgical instruments
- Vilex PA414 (9003-414) Kelgraf Mineral Oil Lubricant or PA413 (9003-413) Aerosol Instrument Lubricant should be used to ensure peak performance of the electric motor and hand pieces. Spraying or putting a couple of drops of lubricant at the motor connection end of the hand piece and in the motor before autoclaving should keep your equipment well lubricated. The lubricants should be used on the instrumentation after cleaning; prior to autoclaving
- PMC825 & PAC126 (#8 motor with detachable cord) or PMC250 (9750-250R brushless electric motor/cord assembly) must be wrapped separately to prevent the connector parts and the motor housing from resting on the silicone cord. All other hand pieces (saws, drills, wire drivers) can be autoclaved without wrapping
- Do not put any motor or hand piece in a SEALED POUCH. Moisture will be trapped inside the hand piece, it will not be sterile, and the internal parts will eventually corrode
- Place instruments on a sterilization tray or in a perforated sterilization case

Prevacuum Sterilization

Use HARD GOODS CYCLE if your steam sterilizer has a prefixed cycle. If not, set the exposure to four minutes.
Note: Drying time is a minimum of eight minutes

Gravity Air Displacement Sterilizer Unit

Exposure time for unwrapped hand pieces is 270°- 272° (132-133 C)
Set time for thirteen minutes
Exposure time for individually wrapped motors or hand pieces is 270°-272° (132-133 C)
Set time for eighteen minutes
Note: Drying time is a minimum of eight minutes

Gas Sterilization

100% Cold Cycle	4 hours @ 86° (30 C)
100% Warm Cycle	90 minutes @ 145° (63 C)
88%/12"	150 minutes @ 130° (54 C)

Accidental immersion procedures:

Contact Vilex immediately at 1-931-474-7550

Following these four steps will help preserve your warranty as well as your hand piece or motor:

1. To rinse away any corrosive fluids and precipitates, wash the hand piece or motor under running water (preferably distilled)
2. Autoclave the instrument at 270° for thirty-five minutes with a ten minute drying cycle
3. After the instrument has cooled, use either Vilex kelgraf oil or Vilex aerosol spray to lubricate all the features especially the motor and hand piece connections. Do not saturate with lubricant.
4. The hand piece or motor should then be packaged and sent immediately to Vilex for servicing. Please include a description of the liquid the hand piece or motor was immersed in and the duration. The hand piece or motor will be disassembled, cleaned and promptly returned.

Vilex, Inc.
111 Moffitt Street
McMinnville, TN 37110
Domestic Tel: 800-521-5002 • Fax: 866-606-4911
International Tel: 931-474-7550 • Fax: 931-474-7551
Email: vilex@infoave.net
www.vilex.com